



I-Corps™ at NIH for Small Businesses

November 12, 2015 12:30 – 2:00 pm EST

For audio, dial in: +1 (914) 614-3221

Meeting ID: 953-490-586

For Technical Support, call (855) 352-9002

sbir.cancer.gov/icorps

Submit your questions through the Q&A chat box

- Background and overview of I-Corps™ at NIH
 - Michael Weingarten, Director of NCI SBIR Program
- The I-Corps Model: How to Make Startups More Successful
 - Dave Charron, *Lead I-Corps Instructor*
 - Edmund Pendleton, *Lead I-Corps Instructor*
- I-Corps™ at NIH Funding Opportunity Announcement and Application Process
 - Michael Weingarten
- Questions and Answers



“We’re scaling up the National Science Foundation’s successful Innovation Corps program at six more federal agencies so we can help more of our scientists move their ideas out of the lab and into the marketplace.”

– President Obama (August 4, 2015)

Program Description

- Intensive ***Entrepreneurial Immersion*** course aimed at providing teams with skills and strategies to reduce commercialization risk
- Curriculum emphasizes ***Reaching out to Customers*** to test hypotheses about the need and market for the technology being developed.
 - Each team is expected to conduct over 100 interviews over 10 weeks.
- Format is focused on ***Experiential Learning***

- Program was originally designed by serial entrepreneur Steve Blank in partnership with the NSF.
- Over 600 academic teams have been thru the program at NSF over the past 4 years.
- We have worked closely with Blank and NSF to modify the program for life science startups.

SBIR/STTR Phase II grant applications have two components

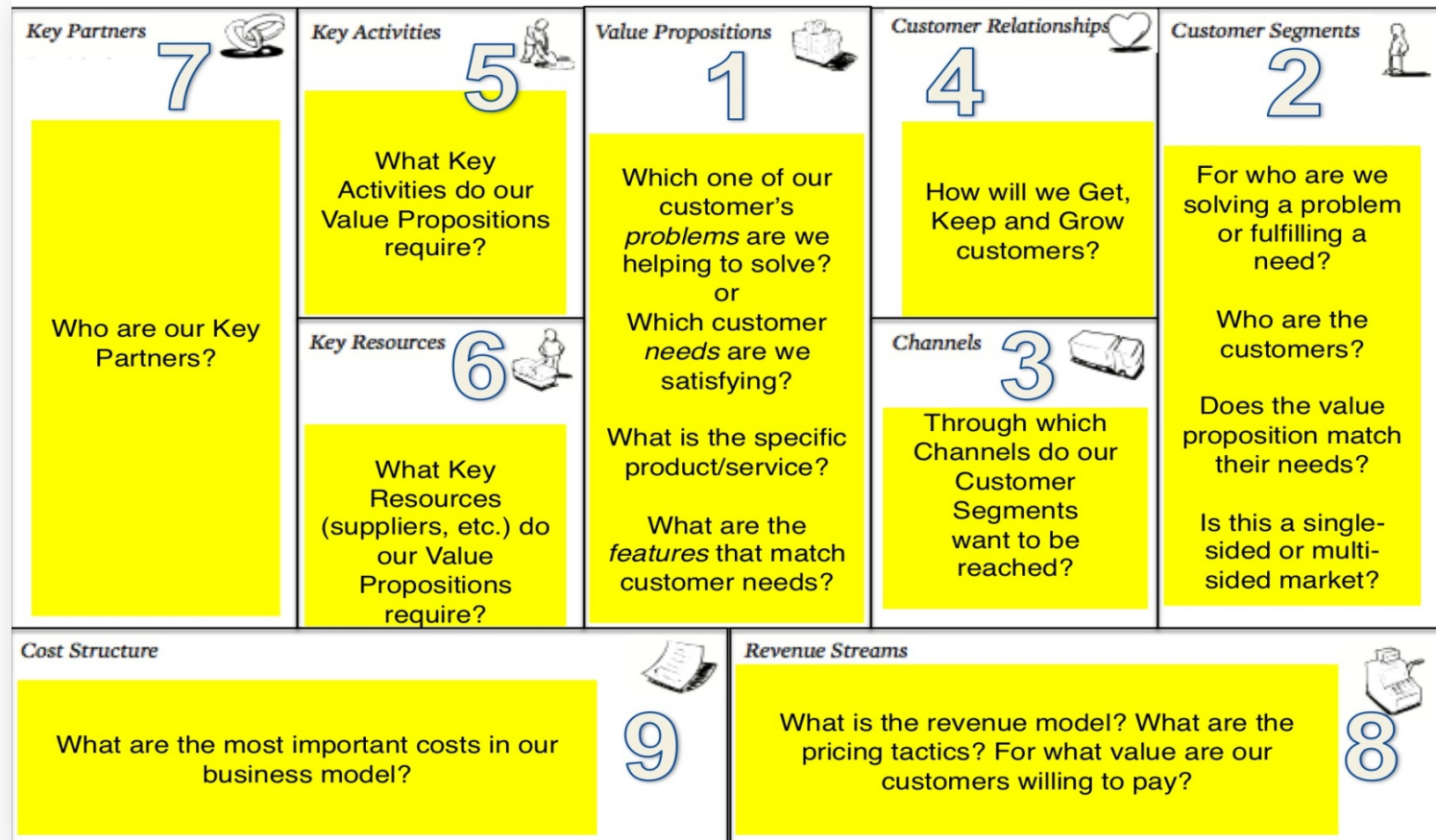
1.The Research Strategy

2.The Commercialization Plan

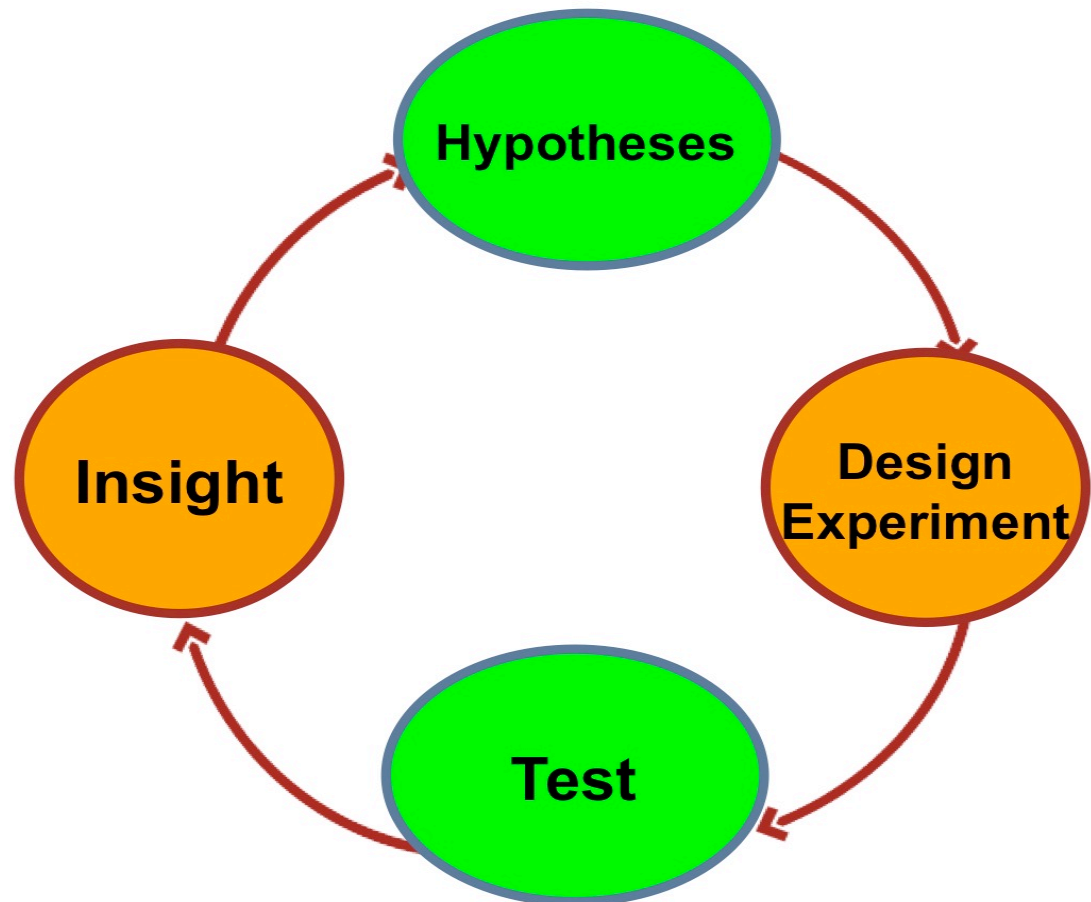
- Phase II applicants often focus on #1
- The strongest Phase II applications focus on both

Important goal of I-Corps™ at NIH is to inform the Commercialization Plan

“ Product-Market Fit ”



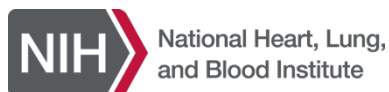
Hypotheses Testing and Insight...



I-Corps participants gain new insights into:

- Clinical utility
- Customers / customer segments
- Data & data quality that is needed
- Aspects of the product that are (& are not) valuable
- Roles of partners

**New insights can have a dramatic affect
on the aims of a future Phase II SBIR grant**



Pilot Program Summary

- 19 teams conducted 2,128 customer discovery interviews
- 82% found the program “very good” or “excellent”
- 82% would recommend I-Corps™ at NIH to other companies
- ***All made possible with significant planning and financial support from NSF***

“We clarified the value propositions, who our target customers would be, revenue streams, customer relationships...”

“After going through I-Corps we understand we have to focus on a small subset [of customers] and prioritize segments based on their value propositions.”

THERAPEUTICS TRACK

THERAPEUTICS Expert

I-Corps Node Instructor

4 x  National Cancer Institute

3 x  National Institute of Neurological Disorders and Stroke

DIAGNOSTICS TRACK

DIAGNOSTICS Expert

I-Corps Node Instructor

4 x  National Cancer Institute

1 x  National Center for Advancing Translational Sciences

MEDICAL DEVICES TRACK

MED DEVICE Expert

I-Corps Node Instructor

3 x  National Cancer Institute

3 x  National Heart, Lung, and Blood Institute

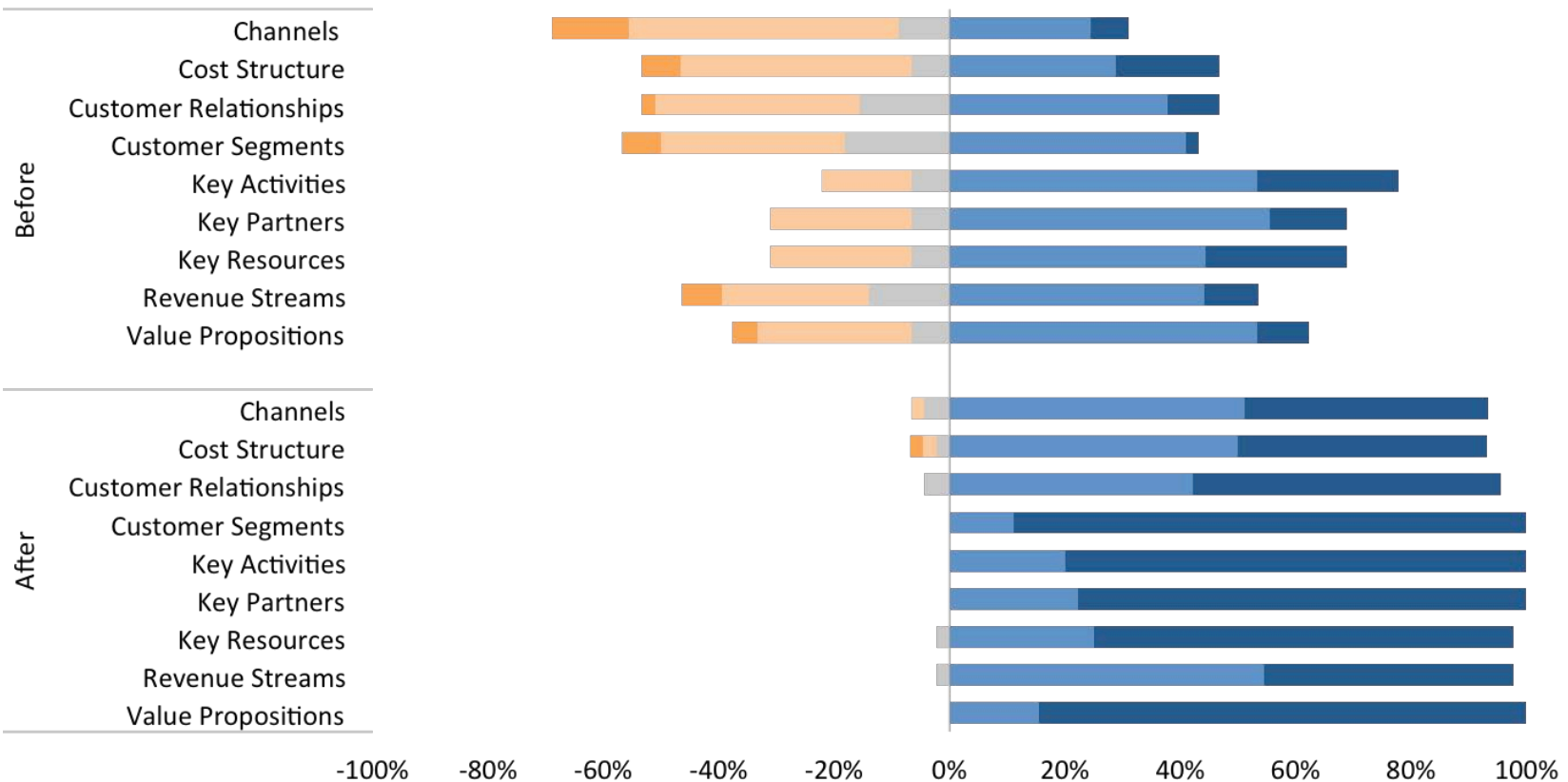
1 x  National Center for Advancing Translational Sciences

Pilot Program (Oct – Dec 2014)

Business Model Canvas Knowledge

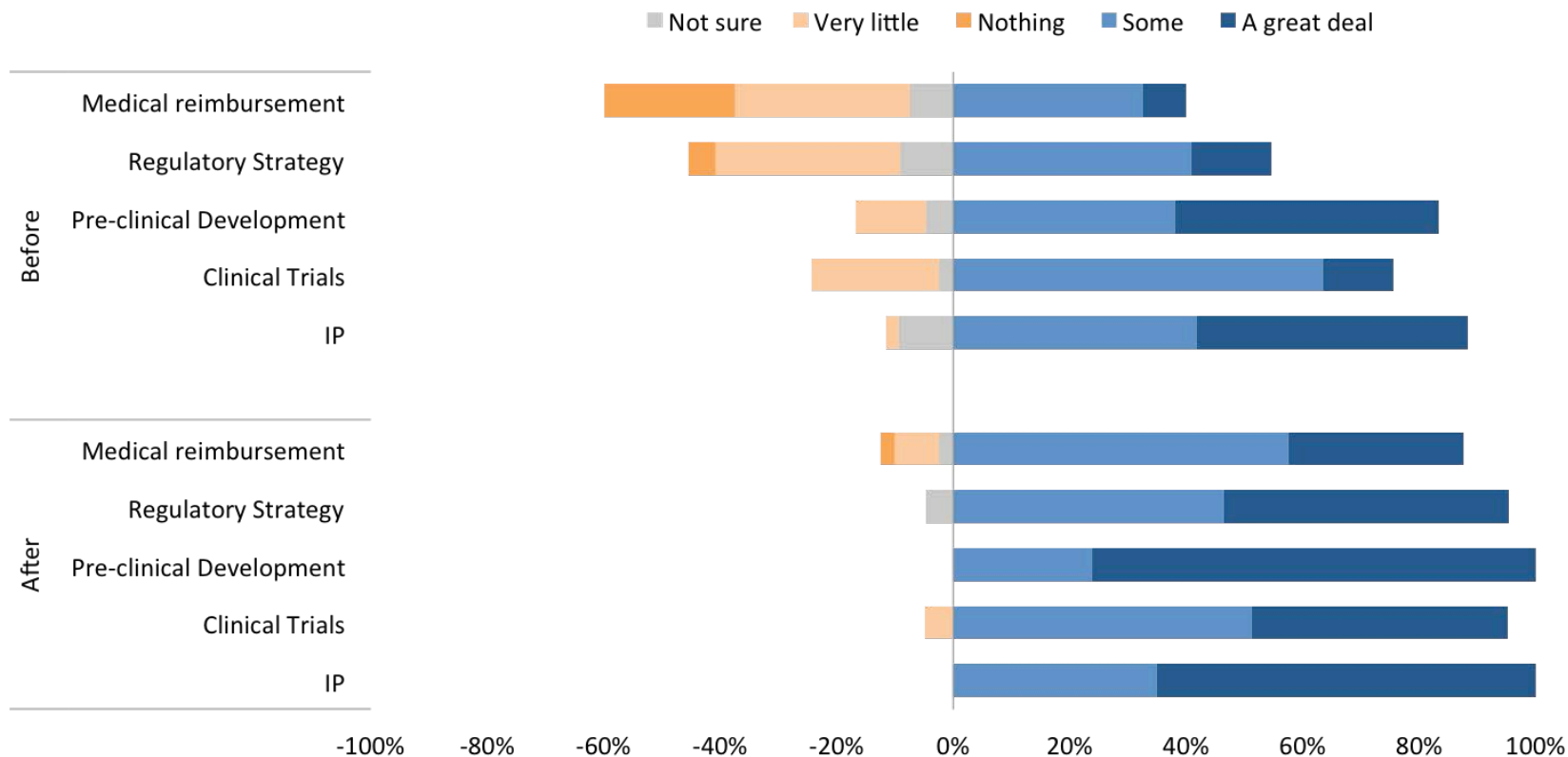
Please rate the following components of the I-Corps course to date in terms of their impact on your team's learning.

Not sure Very little Nothing Some A great deal



Life Science Commercialization Knowledge

Commercialization of life science technologies requires consideration of the following key topic areas. For each component, indicate your level of knowledge.



14 participating Institutes and Centers from NIH/CDC

National Cancer Institute (NCI)
National Heart, Lung, and Blood Institute (NHLBI)
National Institute on Aging (NIA)
National Institute on Alcohol Abuse and Alcoholism (NIAAA)
National Institute of Allergy and Infectious Diseases (NIAID)
National Institute of Dental and Craniofacial Research (NIDCR)
National Institute on Drug Abuse (NIDA)
National Institute of Environmental Health Sciences (NIEHS)
National Institute of General Medical Sciences (NIGMS)
National Institute of Mental Health (NIMH)
National Institute of Neurological Disorders and Stroke (NINDS)
National Center for Advancing Translational Sciences (NCATS)
National Center for Injury Prevention and Control (NCIPC/CDC)
National Institute for Occupational Safety and Health (NIOSH/CDC)

I-Corps *History*

NSF ***Initiative***



I WANT YOU

FOR  **CORPS**
NSF Innovation Corps

NEAREST RECRUITING STATION

\$7 *Billion*

***"How can we increase the
economic impact of the
research dollars invested
every year?"***



CORPS
NSF Innovation Corps

Developed by
Entrepreneurs

Taught by
Entrepreneurs

Lean *Startup*

Steve Blank is a consulting associate professor at Stanford University and a lecturer and National Science Foundation principal investigator at the University of California at Berkeley and Columbia University. He has participated in eight high-tech start-ups as either a cofounder or an early employee.

Why the Lean Start-Up Changes Everything

by **Steve Blank**

HARVARD Business Review

TURN A GREAT IDEA INTO A GREAT BUSINESS

"Lean" is changing everything you know about starting a new venture **PAGE 63**

MAY 2012

88 Idea Watch
The Limits of Social Influence
Sinan Aral

92 Spotlight
In Search of the Next Big Thing
An interview with Marc Andreessen

141 Case Study
The Unmanageable Star Performer
Abhishek Gupta



by Harvard Business School's Shikhar Ghosh shows, 75% of all start-ups fail.

But recently an important countervailing force has emerged, one that can make the process of starting a company less risky. It's a methodology called the "lean start-up," and it favors experimentation over elaborate planning, customer feedback over intuition, and iterative design over traditional "big design up front" development. Although the methodology is just a few years old, its concepts—such

"minimum viable product" and "pivoting"—have quickly taken root in the start-up world, and business schools have already begun adapting their curricula to teach them.

The lean start-up movement hasn't gone totally mainstream, however, and we have yet to feel its full impact. In many ways it is roughly where the big data movement was five years ago—consisting mainly of buzzword that's not yet widely understood, whose applications companies are just beginning to grasp. As its practices spread, they're turning the conventional wisdom about entrepreneurship on its head. New ventures of all kinds are attempting to improve their chances of success by following its principles of failing fast and continually learning. And despite the methodology's name, in the long term some of its biggest payoffs may be gained by the *large* companies that embrace it.

In this article I'll offer a brief overview of lean start-up techniques and how they've evolved. Most important, I'll explain how, in combination with other business trends, they could ignite a new entrepreneurial economy.

**The
Economist**

SPECIAL REPORT
TECH STARTUPS

January 18th 2014



A Cambrian moment

MIT Technology Review

VOL. 115 NO. 6 | \$5.99 US

HAS QUANTUM
COMPUTING
FINALLY
ARRIVED?

Upfront p24

HOW
TOMORROW'S
STARTUPS WILL
BE FUNDED

Business Report p75

TECH
TRANSFORMS
MUSIC, ART,
AND PROSE

Reviews p87



Buzz Aldrin,
Apollo 11
moonwalker,
would like a
word with you.

You Promised Me Mars Colonies. Instead, I Got Facebook.

We've stopped solving big problems.
Meet the technologists who refuse to give up. p26

MIT Technology Review

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HAS QUANTUM
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Upfront p24

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TECH
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MUSIC, ART,
AND PROSE

Reviews p87



Buzz Aldrin,
Apollo 11
moonwalker,
would like a
word with you.

**You Promised Me Mars Colonies.
Instead, I Got Facebook.**

**I-Corps first program to
apply lean startup principles
*to complex engineering,
technology, and science
based startups***

I-Corps *Nodes*



Life *Sciences?*

NIH *I-Corps*

Just like NSF grantees,

**Just like NSF grantees,
we believe there is a
better way to build
*life sciences startups.***

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STEVE BLANK


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Entrepreneurship is a Calling

Entrepreneurship is 

[Reinventing Life Science Startups – Evidence-based Entrepreneurship](#)

Posted on **August 21, 2013** by [steveblank](#)

What if we could increase productivity and stave the capital flight by helping Life Sciences startups build their companies more efficiently?

We're going to test this hypothesis by [teaching a Lean LaunchPad class for Life Sciences](#) and Health Care (therapeutics, diagnostics, devices and digital health) this October at UCSF with a team of veteran venture capitalists.

[Part 1 of this post](#) described the issues in the drug discovery. [Part 2 covered medical devices and digital health](#). This post describes what we're going to do about it. And why you ought to take [this class](#).

When I wrote [Four Steps to the Epiphany](#) and the [Startup Owners Manual](#), I believed that Life Sciences startups didn't need Customer Discovery. Heck how hard could it be? You invent a cure for cancer and then figure out where to put the bags of money. (In fact, for oncology, with a successful clinical trial, this is the case.)

contact: info@kandsranch.com



[@sgblank](#)

Linked 



**In most cases, it's not
just about *the execution
of science.***

**Instead, we need an
approach *driven by
customer needs.***

**We aim to reduce
technology, regulatory, *and*
*market/customer risk.***



\$7 Billion



\$7 Billion



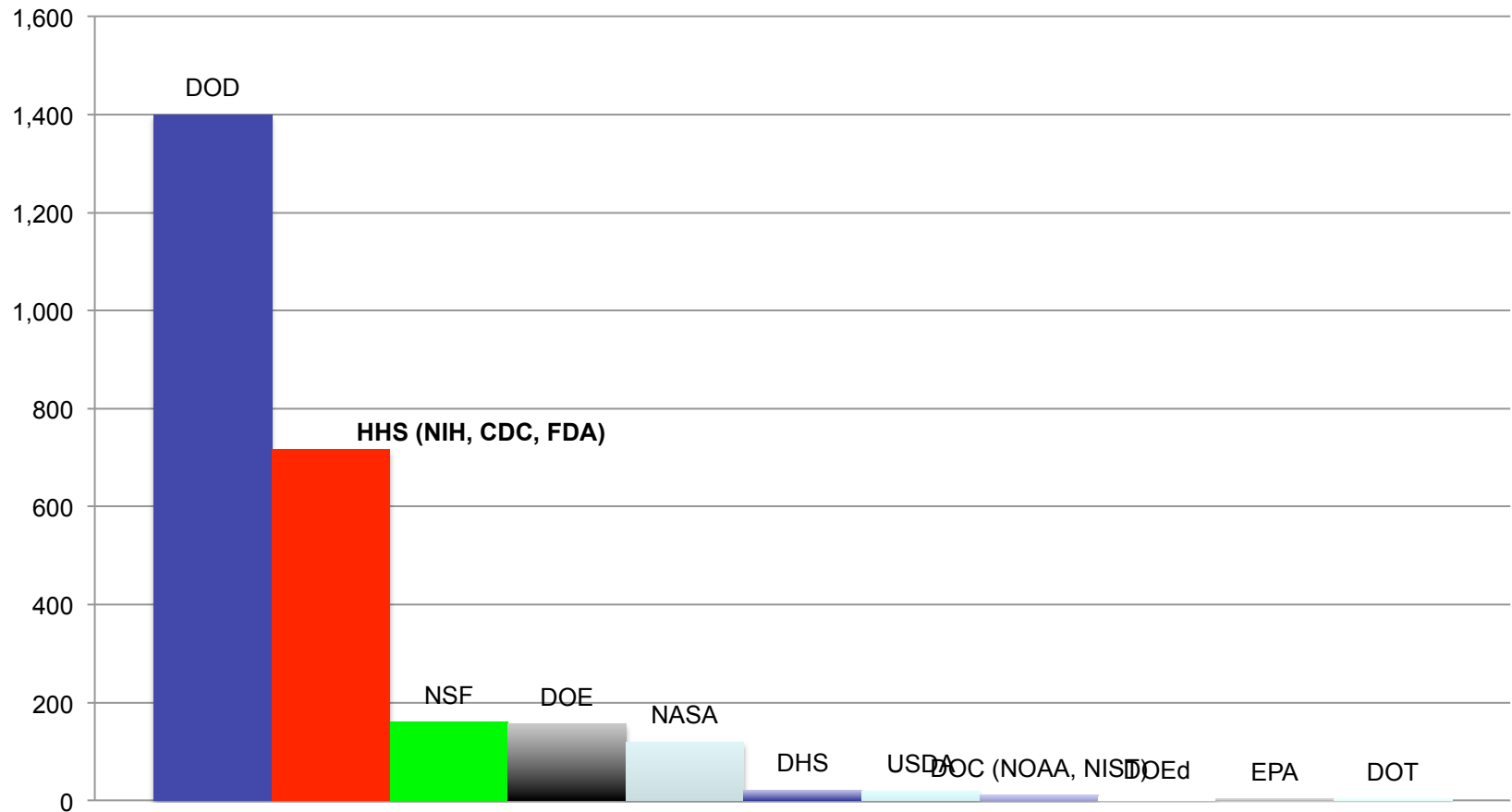
\$30 Billion

Why *SBIR/STTR*

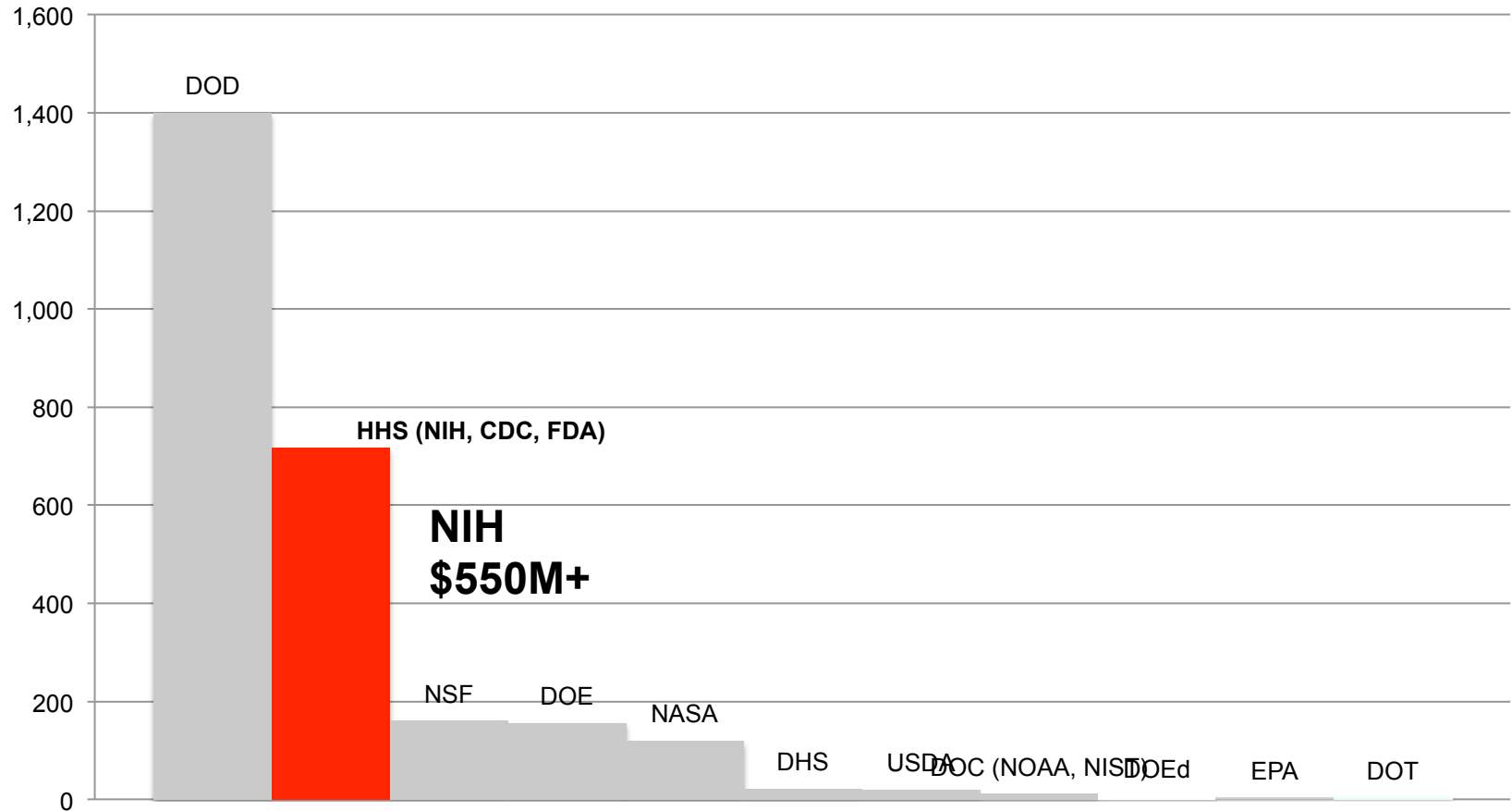
**The SBIR grant programs
offered *by NIH and other
organizations***

The SBIR grant programs
offered *by NIH and other*
organizations support
high-risk, early-stage
technology
commercialization at
small businesses.

SBIR/STTR Funding \$M FY2012

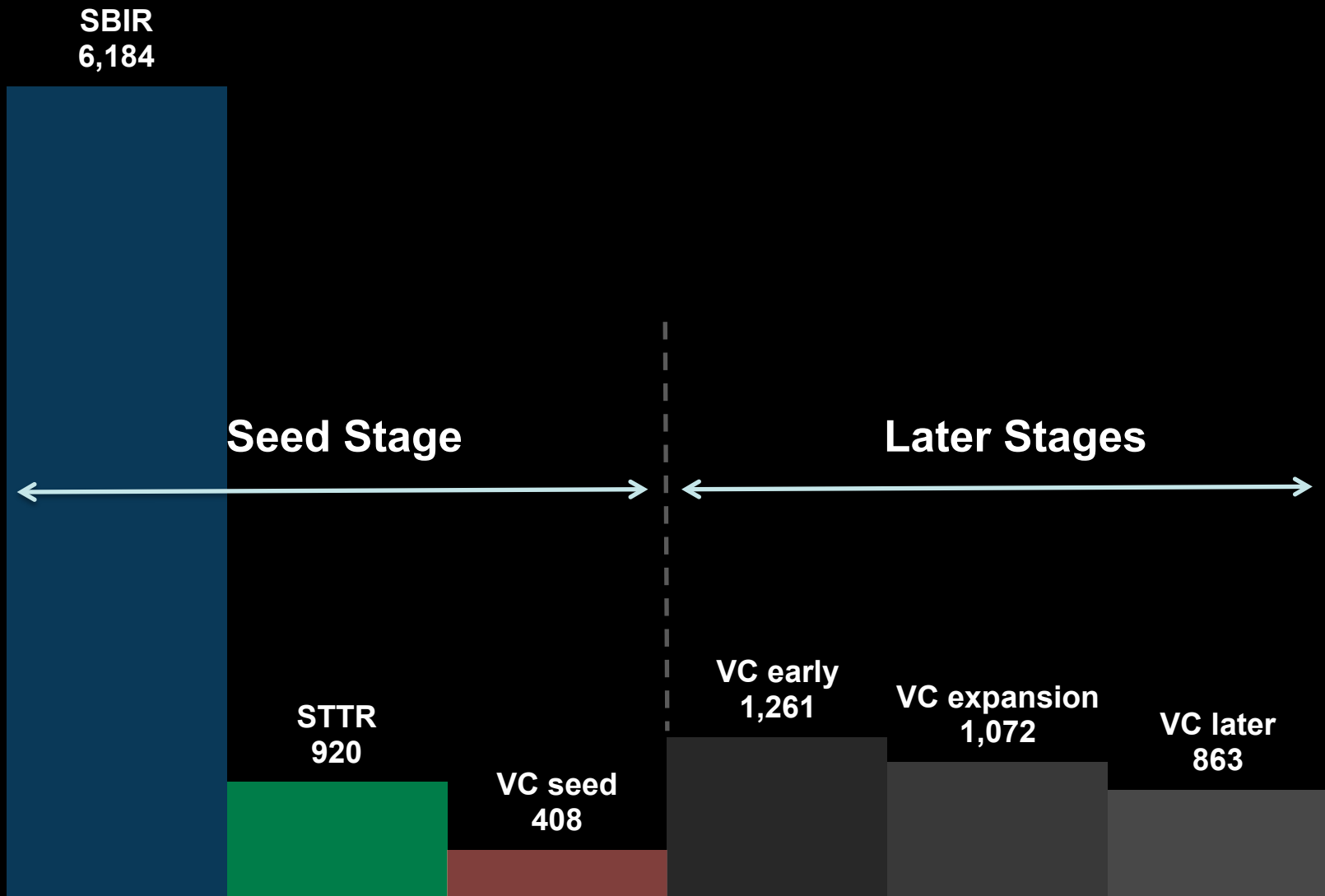


SBIR/STTR Funding \$M FY2012



Startup Investments (#)

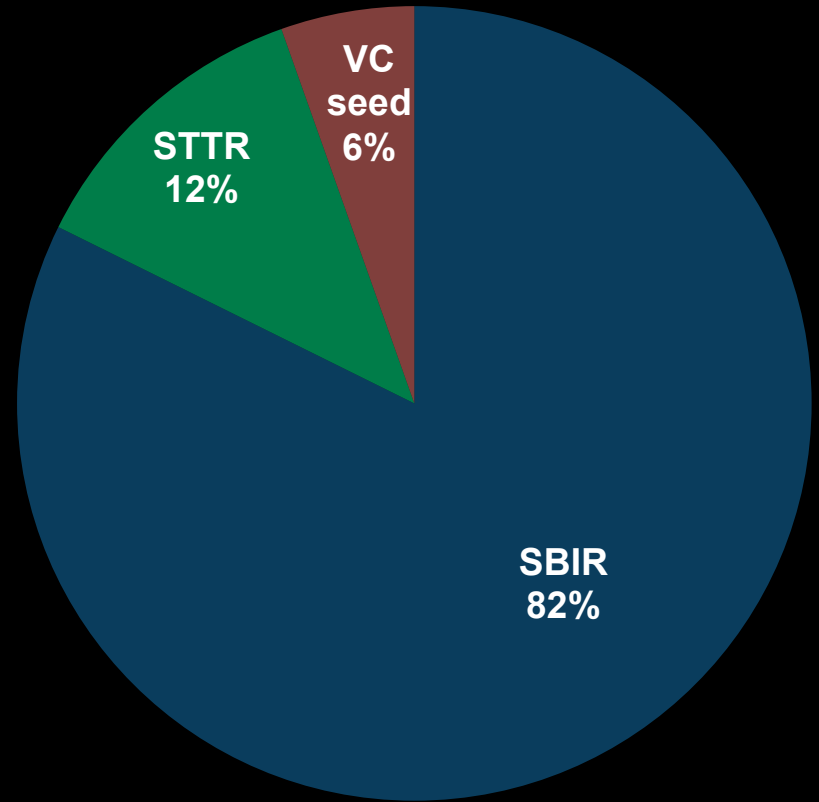
Total FY 2010 = 10,708



SBIR/STTR

made up 94% of
seed investments

FY 2010 = 7,104



That's a lot of
startups!

Why are *we here?*

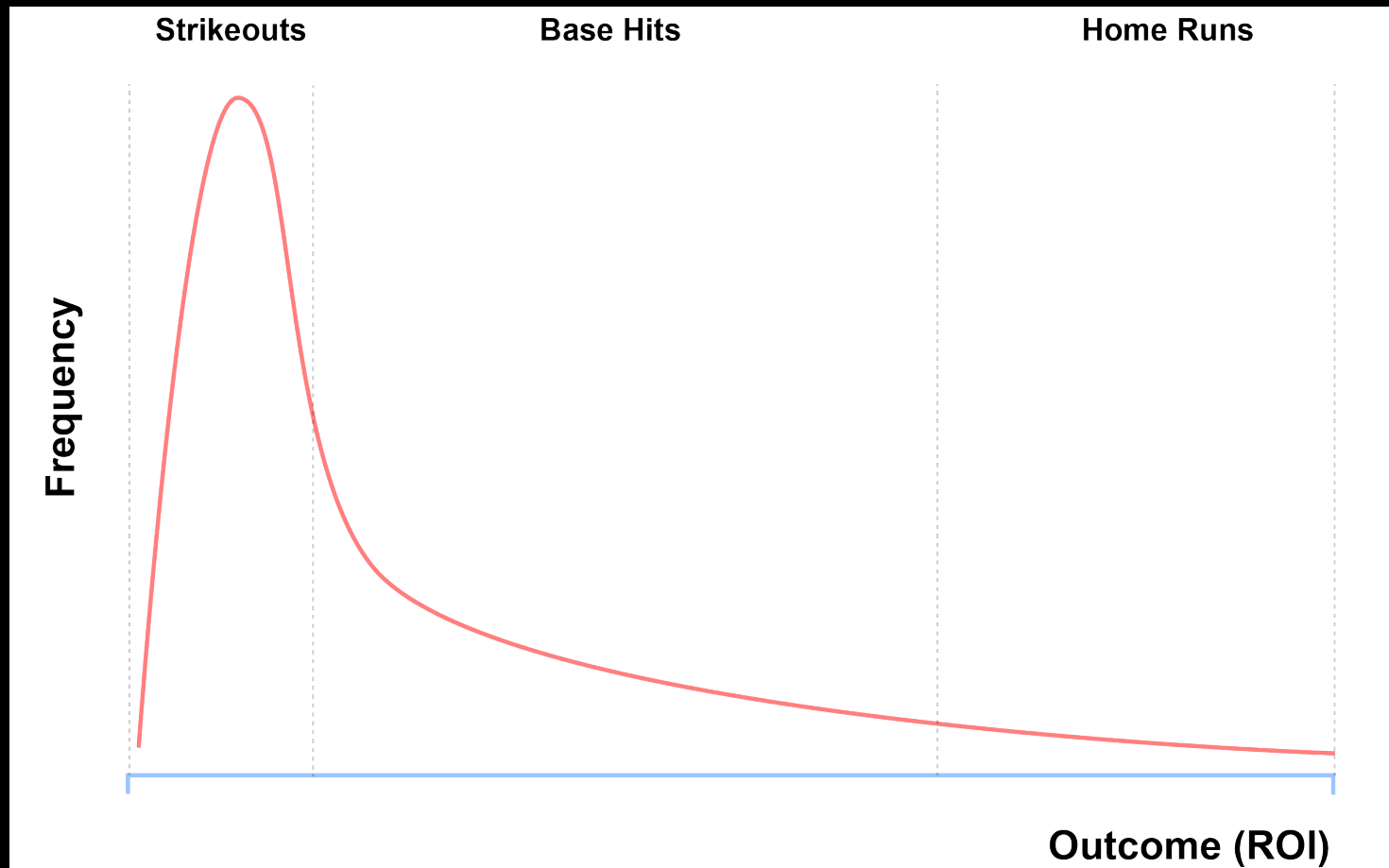
Our *Goal*

Improve *Odds*

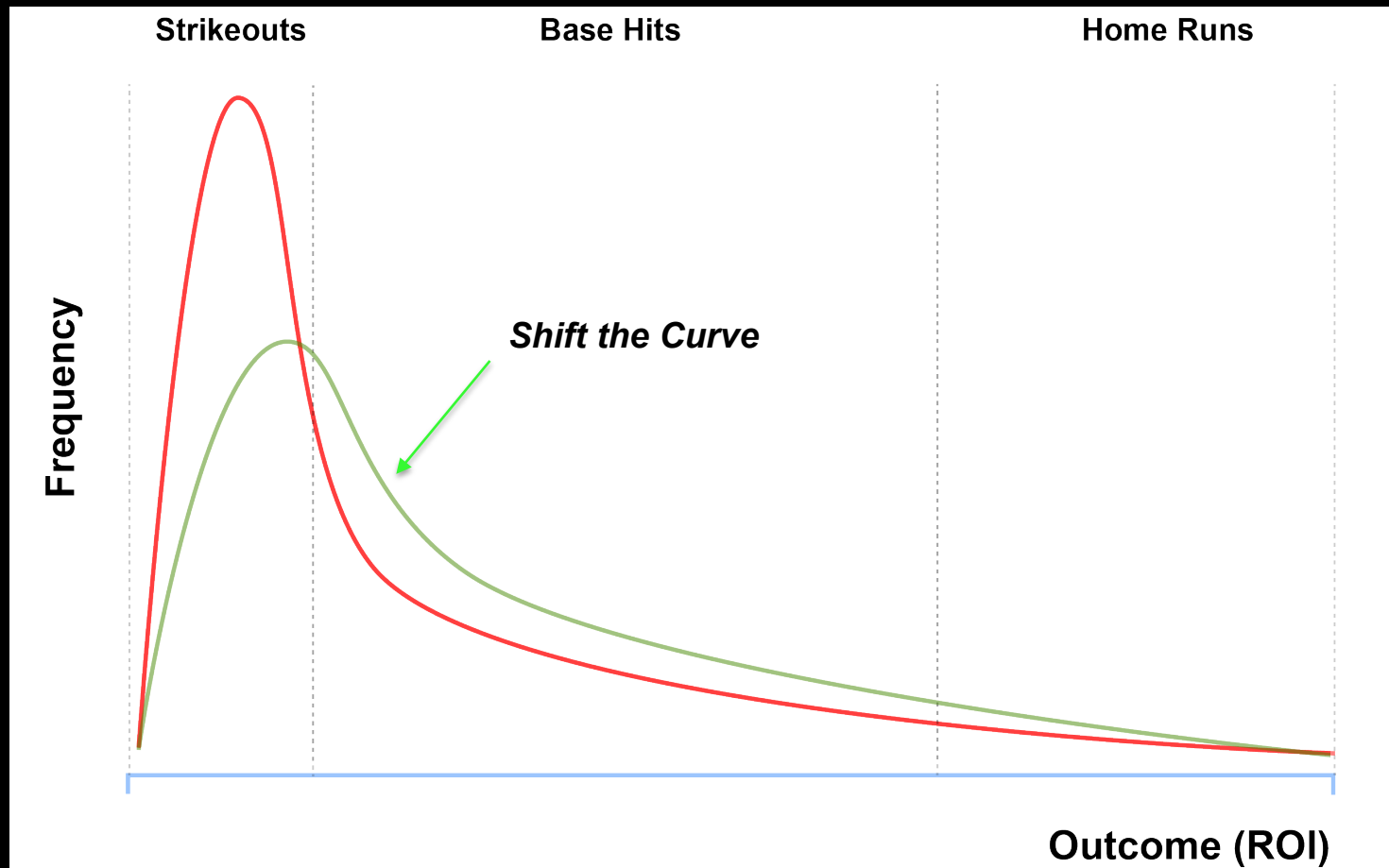
Pick *Winners*

Pick *Winners*

Startup *Statistics*



Create *More Winners*



What will *you do?*

Jump *In*



7 *Weeks*

100 *Interviews*

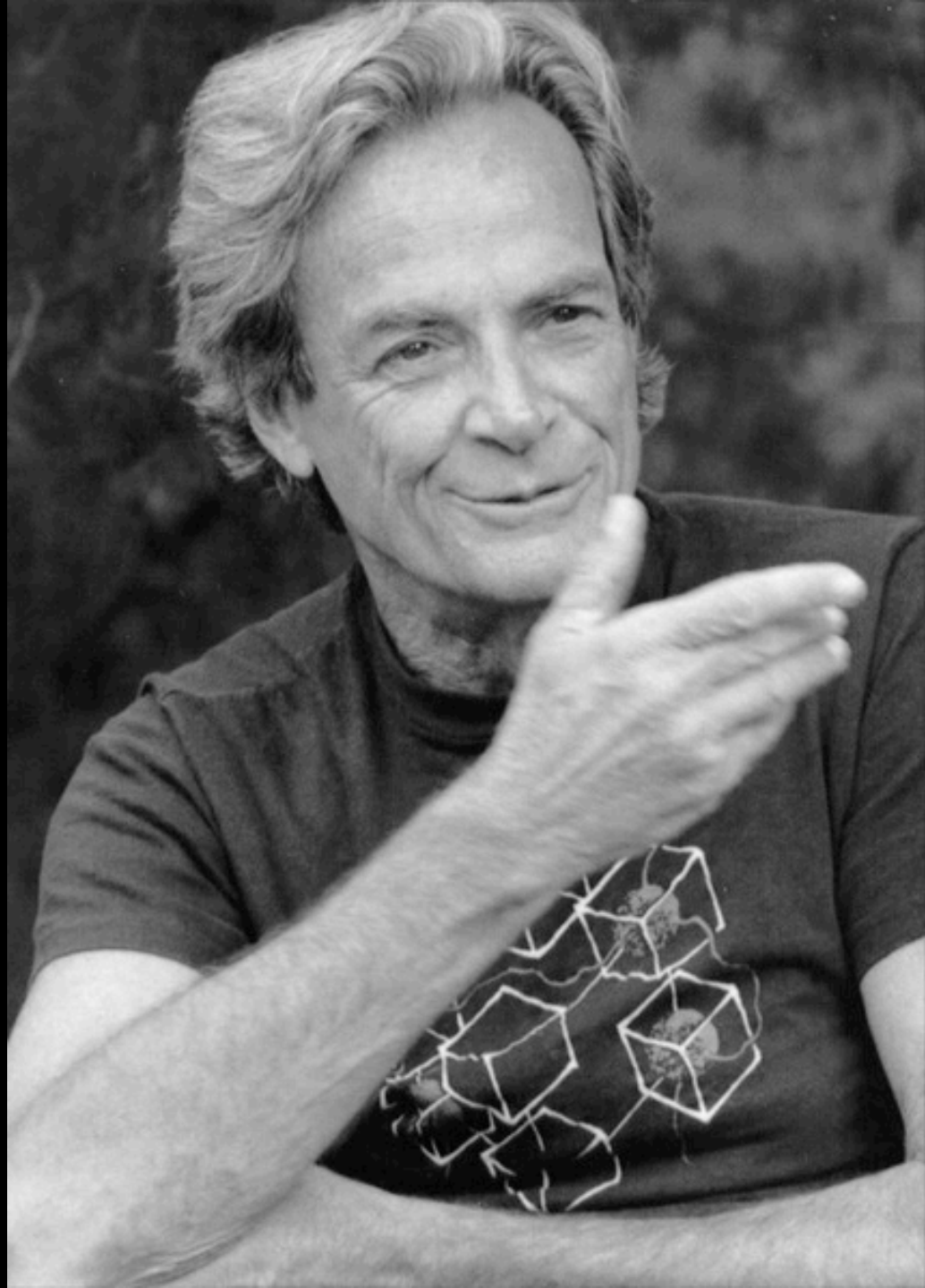
Gut *Feeling*



But *why?*

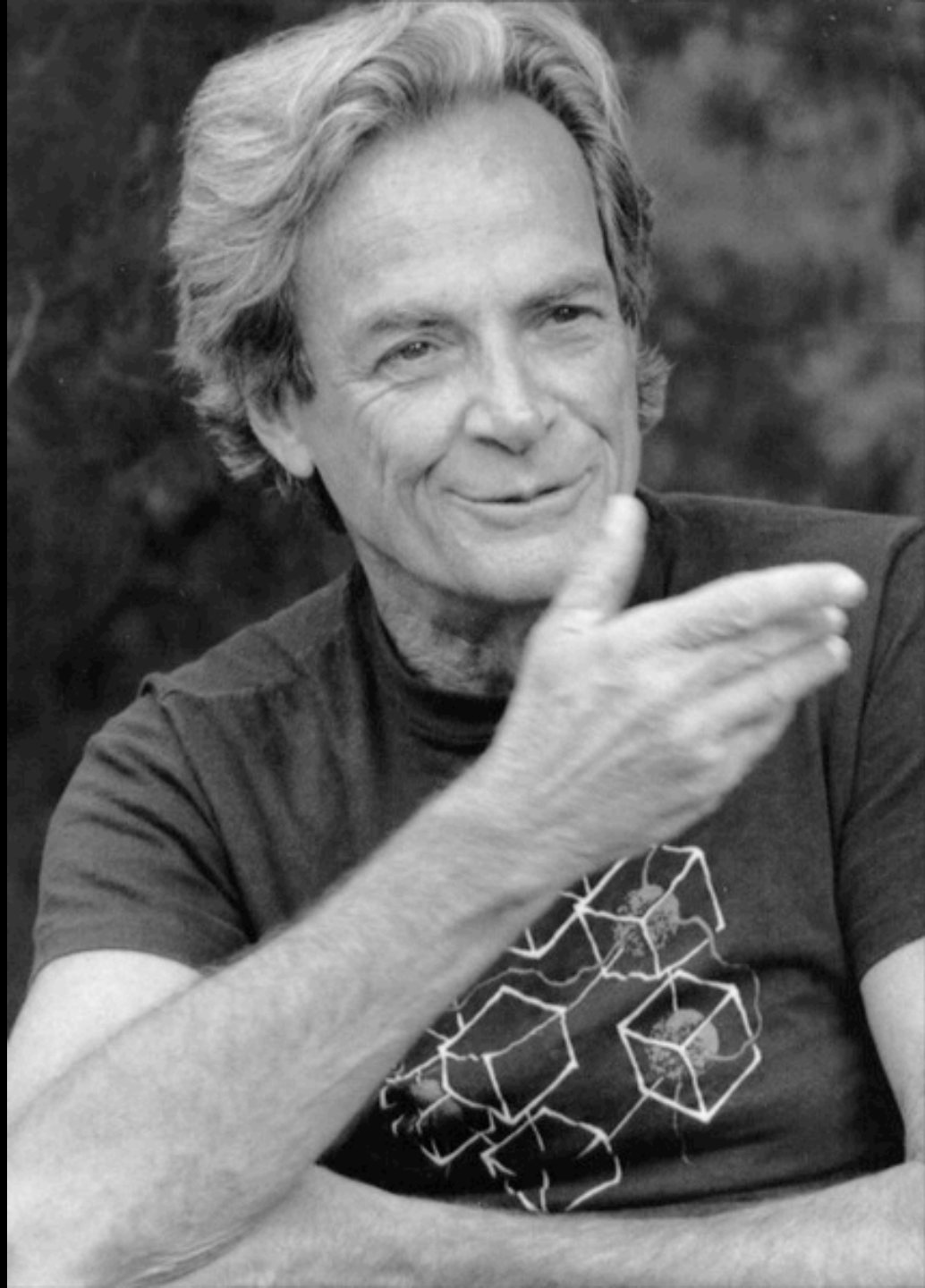
***“The first
principle is that
you must not
fool yourself***

– Richard Feynman



***“The first
principle is that
you must not
fool yourself,
and you are the
easiest person
to fool.”***

– Richard Feynman





Everyone has *a plan...*

...until he gets *punched in the face.*”



TOP 10

STARTUP MISTAKES



Top *Three*



How do we

build a startup?

Search for...

Problem-Solution Fit

Search for...


Product-Market Fit

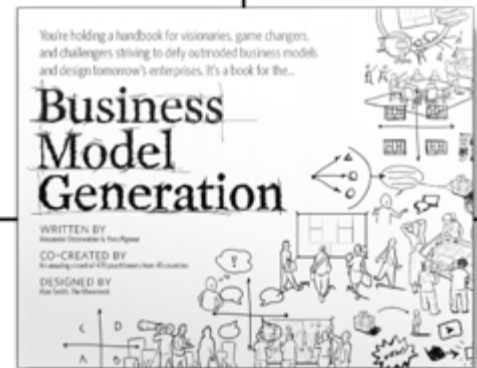
Search for...

Business Model Fit








Search for *Business Model*

Business Model *Canvas*

<p>Key Partners </p>	<p>Key Activities </p>	<p>Value Propositions </p>	<p>Customer Relationships </p>	<p>Customer Segments </p>
	<p>Key Resources </p>		<p>Channels </p>	
<p>Cost Structure </p>	<p>Revenue Streams </p>			



Customer *Segments*

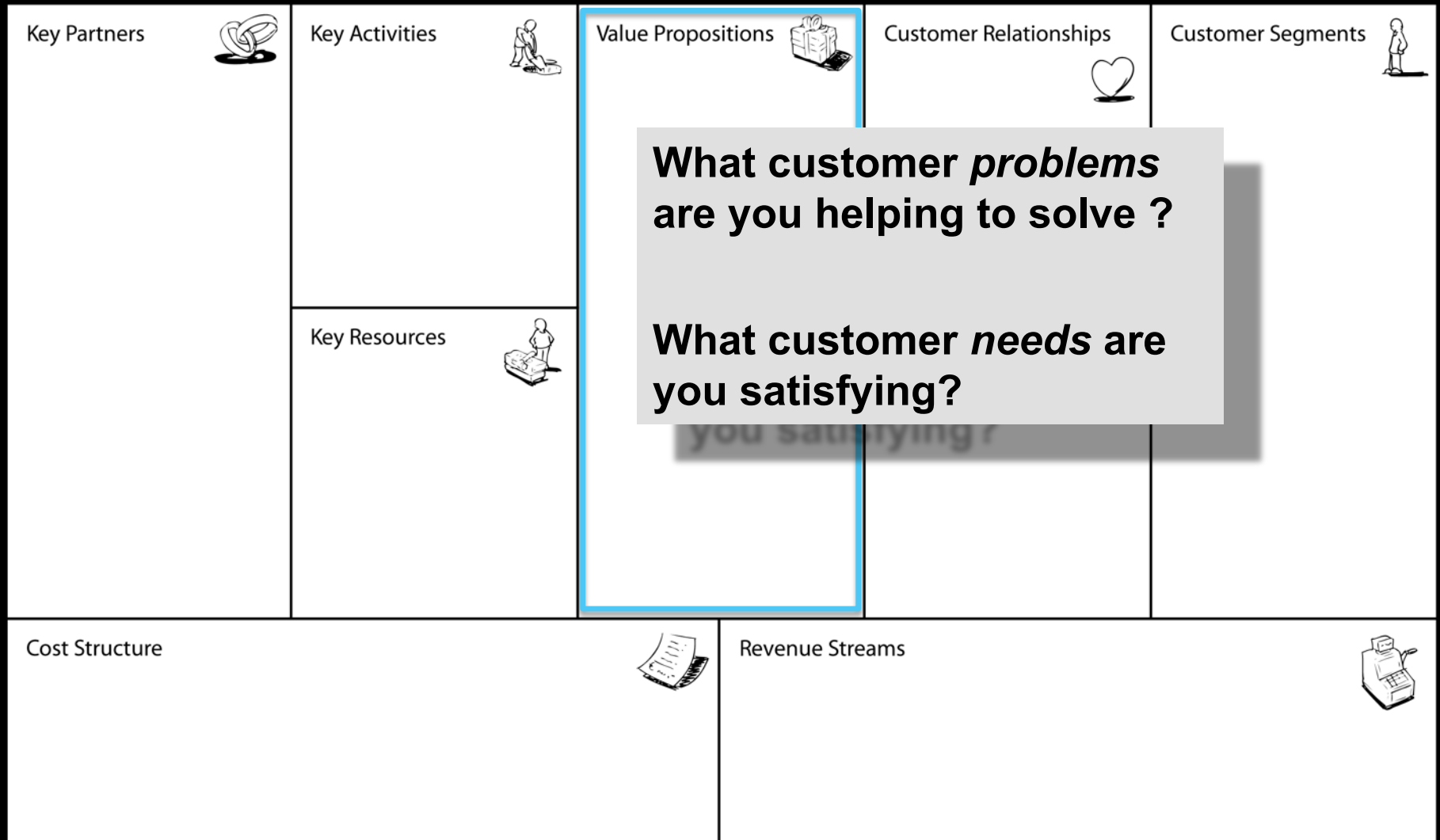
<p>Key Partners </p>	<p>Key Activities </p>	<p>Value Propositions </p>	<p>Customer Relationships </p>	<p>Customer Segments </p>
<p>Cost Structure </p>	<p>Revenue Streams </p>			

Who are your most important customers?

What are their *archetypes*?

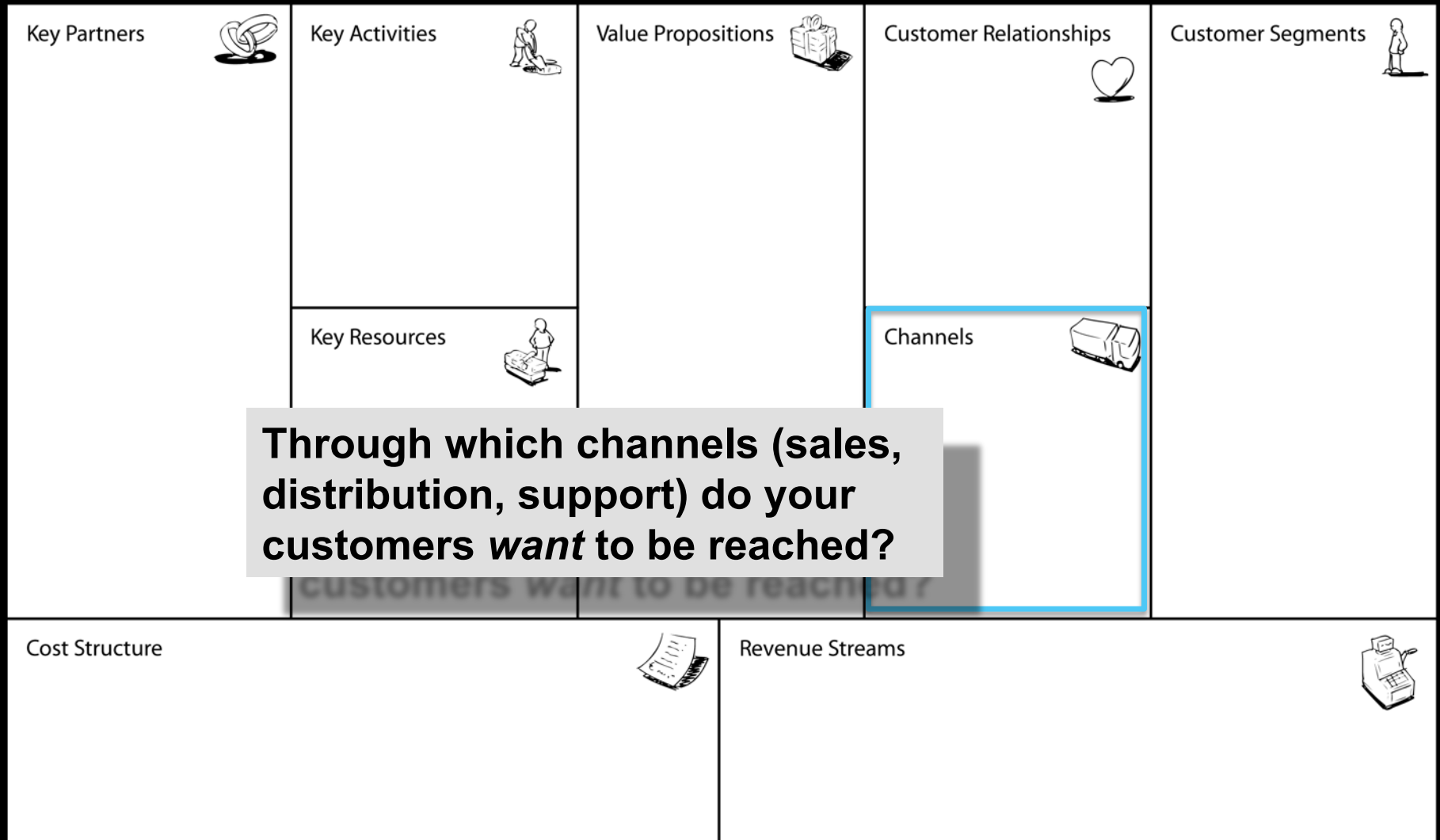
What job do they want you to get done for them?

Value *Propositions*



Business Model Canvas

Channels












Business Model Canvas

Customer Relationships



Business Model Canvas

Revenue Streams

Key Partners 	Key Activities 	Value Propositions 	Customer Relationships 	Customer Segments 
	Key Resources 		Channels 	
Cost Structure 			Revenue Streams 	

How will you make money?

What is revenue model?

What are pricing tactics?

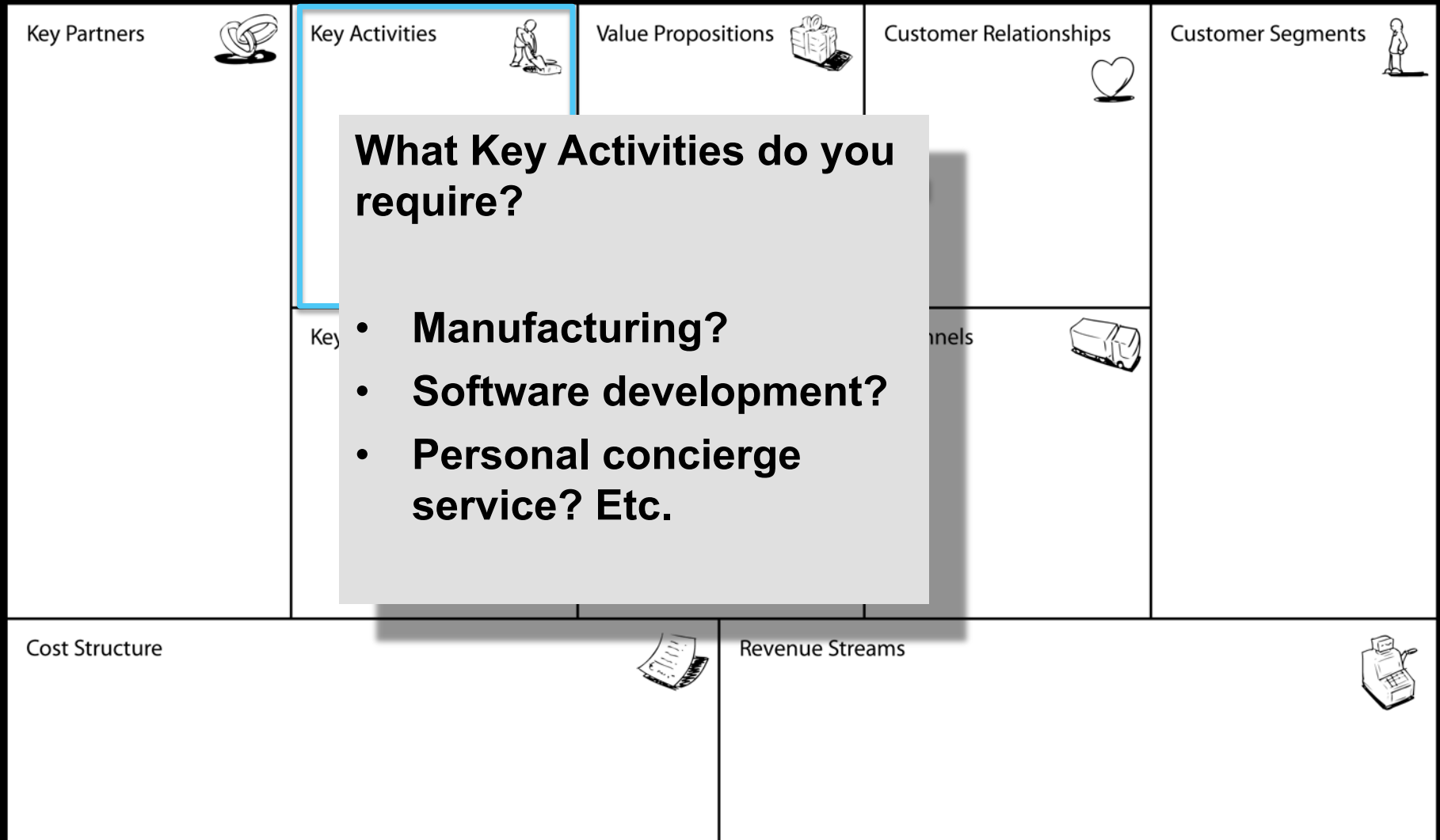
Business Model Canvas

Key Partners



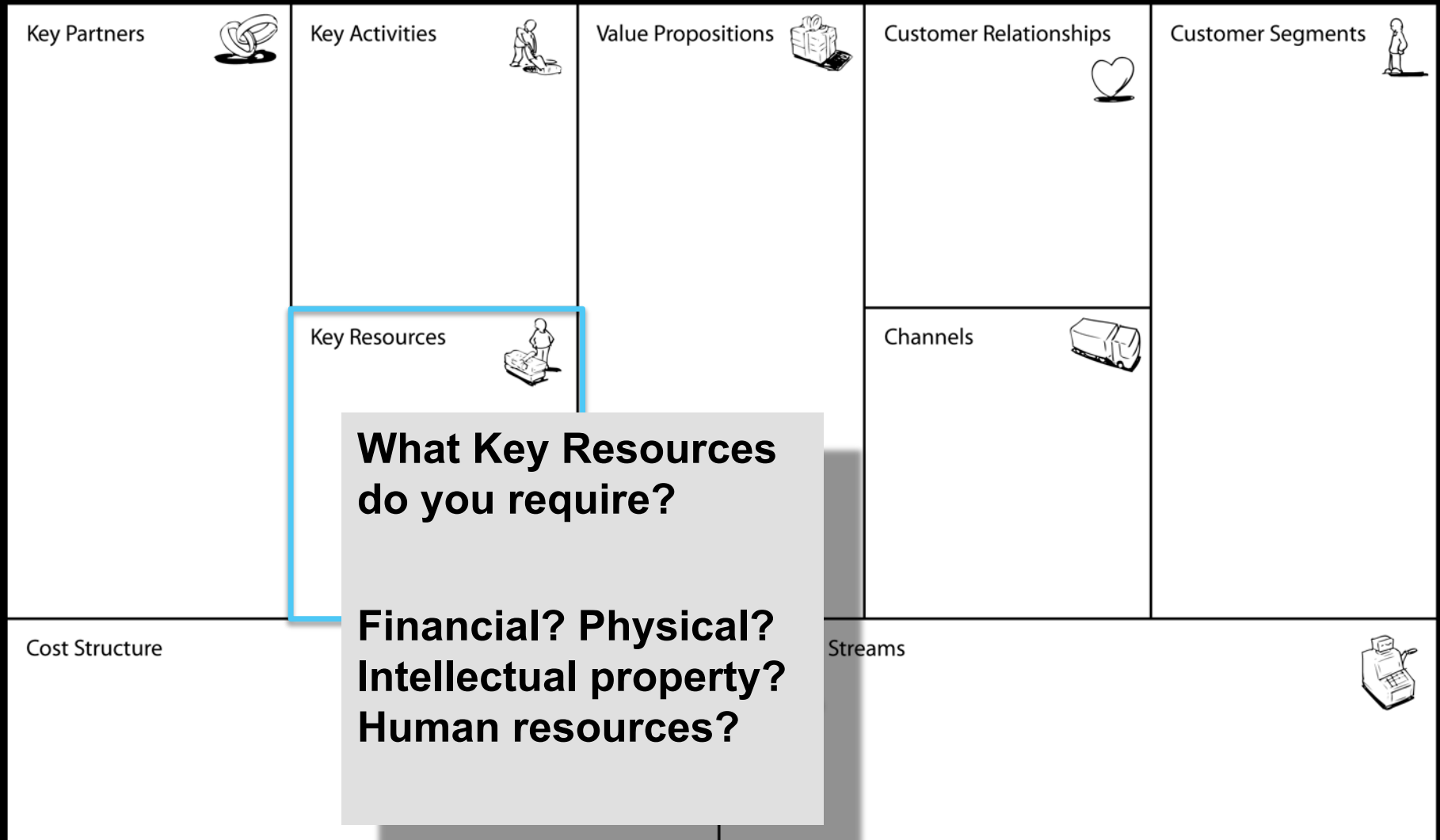
Business Model Canvas

Key Activities










Business Model Canvas

Key Resources




Business Model Canvas

Cost Structure

<p>Key Partners</p> 	<p>Key Activities</p> 	<p>Value Propositions</p> 	<p>Customer Relationships</p> 	<p>Customer Segments</p> 
<p>Cost Structure</p>	<p>Key Resources</p> 		<p>Channels</p> 	

What are most important costs inherent in your business model?

What is mix of fixed and variable costs?



We use

Customer Development

to build Business










Models

100 *Interviews*

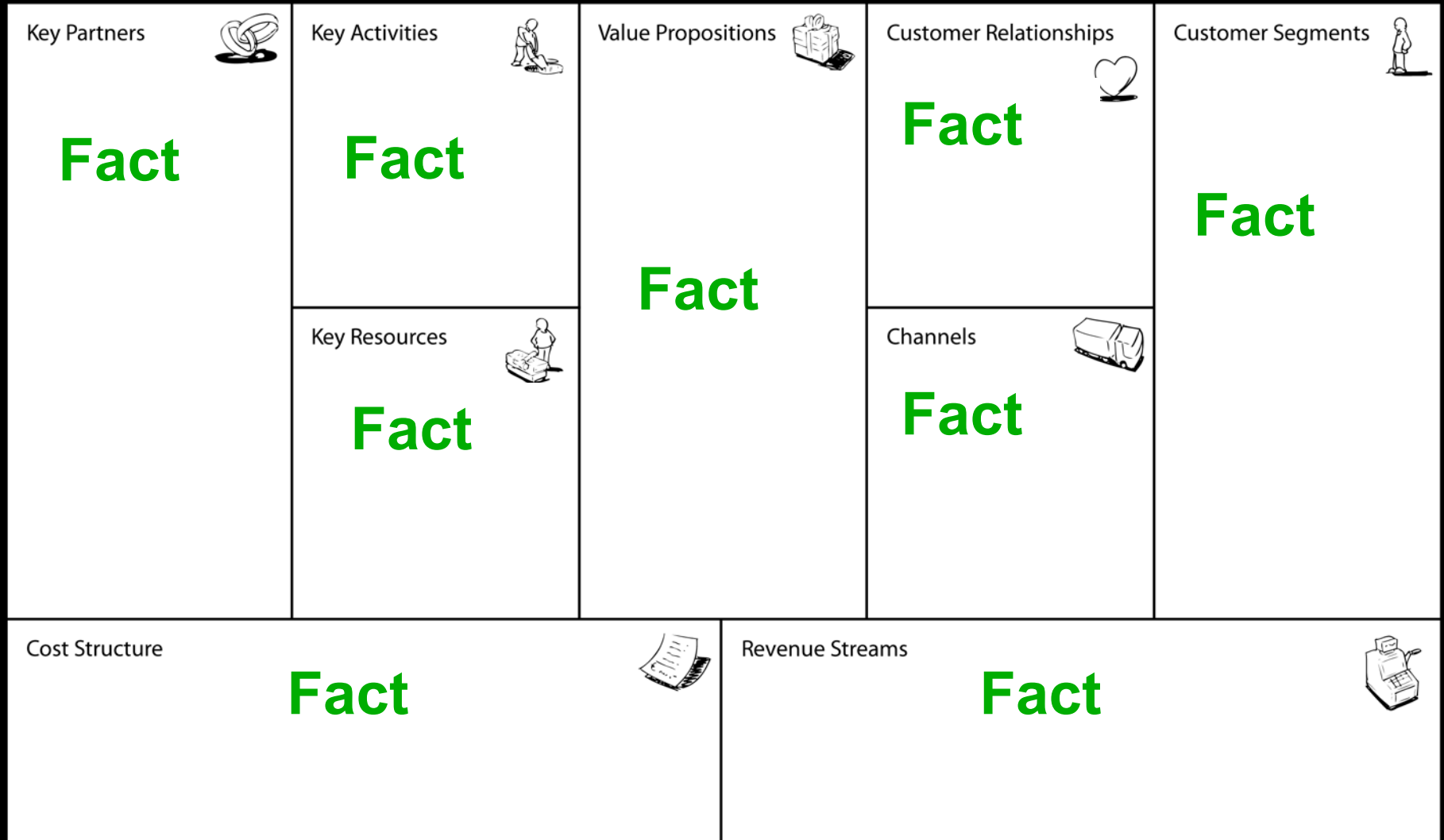
Get *out* of
the building!

Validated facts versus
untested guesses...

Starting *Point*

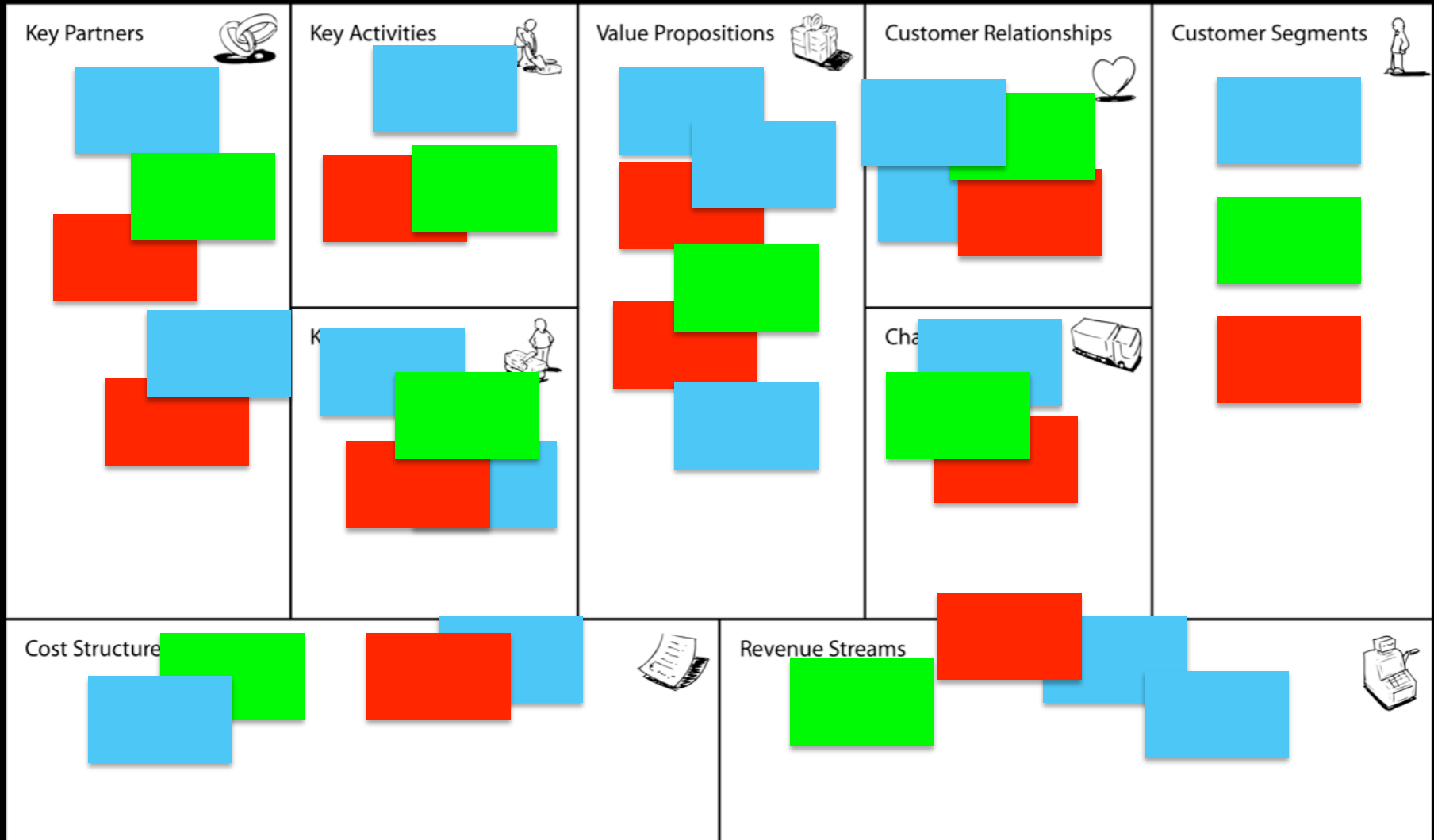
<p>Key Partners </p> <p>Guess</p>	<p>Key Activities </p> <p>Guess</p>	<p>Value Propositions </p> <p>Guess</p>	<p>Customer Relationships </p> <p>Guess</p>	<p>Customer Segments </p> <p>Guess</p>
<p>Cost Structure </p> <p>Guess</p>	<p>Key Resources </p> <p>Guess</p>		<p>Channels </p> <p>Guess</p>	
			<p>Revenue Streams </p> <p>Guess</p>	

End Goal












Your *business model* will
change during the course...

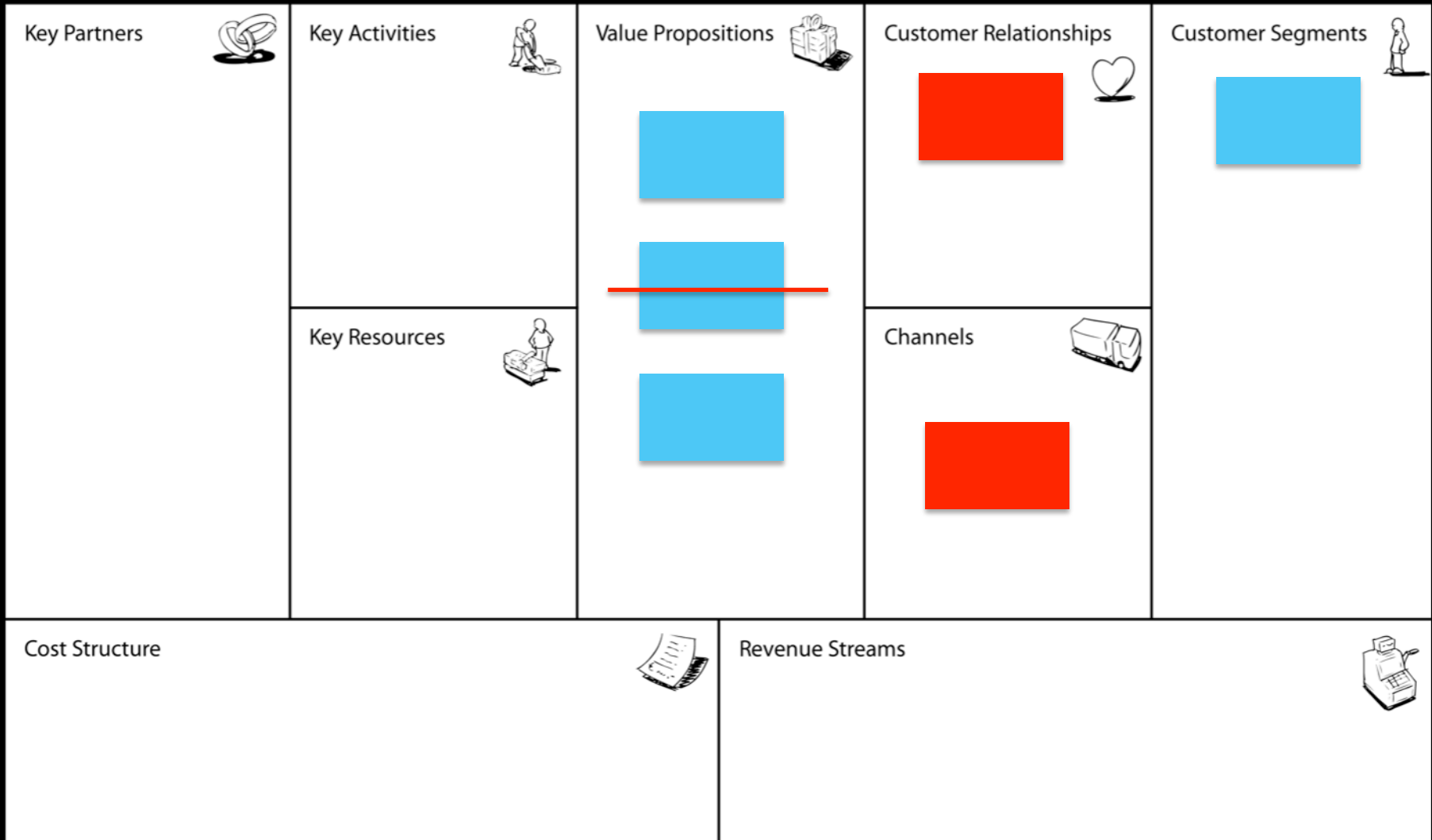
Initial *Canvas*












Canvas *Iterations*

Key Partners 	Key Activities 	Value Propositions  <div data-bbox="865 502 1047 616"></div> <div data-bbox="865 668 1047 782"></div> <div data-bbox="865 831 1047 945"></div>	Customer Relationships 	Customer Segments  <div data-bbox="1593 459 1781 574"></div>
	Key Resources 		Channels 	
Cost Structure 		Revenue Streams 		










Canvas *Iterations*












Canvas *Iterations*

Key Partners 	Key Activities 	Value Propositions  <div></div> <div></div>	Customer Relationships  <div></div>	Customer Segments  <div></div>
	Key Resources 		Channels  <div></div>	<div></div>
Cost Structure 		Revenue Streams 		










Canvas *Iterations*

<p>Key Partners </p> <div data-bbox="106 479 291 591"></div> <div data-bbox="106 651 291 762"></div>	<p>Key Activities </p> <div data-bbox="486 508 672 619"></div> <p>Key Resources </p> <div data-bbox="486 879 672 991"></div>	<p>Value Propositions </p> <div data-bbox="865 502 1051 614"></div> <div data-bbox="865 651 1051 762"></div>	<p>Customer Relationships </p> <div data-bbox="1219 454 1404 565"></div> <p>Channels </p> <div data-bbox="1226 891 1412 1002"></div>	<p>Customer Segments </p> <div data-bbox="1595 459 1781 571"></div>
<p>Cost Structure </p> <div data-bbox="249 1216 434 1328"></div>		<p>Revenue Streams </p> <div data-bbox="1236 1216 1421 1328"></div>		

Canvas *Iterations*

<p>Key Partners </p> <div data-bbox="144 561 334 675"></div> <div data-bbox="144 766 334 881"><div data-bbox="92 825 370 835"></div></div>	<p>Key Activities </p> <div data-bbox="484 475 670 589"></div> <div data-bbox="484 618 670 732"></div> <p>Key Resources </p> <div data-bbox="490 838 674 952"></div> <div data-bbox="484 975 670 1089"><div data-bbox="442 1018 720 1028"></div></div>	<p>Value Propositions </p> <div data-bbox="865 501 1049 615"></div> <div data-bbox="865 665 1049 779"></div> <div data-bbox="865 829 1049 943"></div>	<p>Customer Relationships </p> <div data-bbox="1219 454 1402 568"></div> <div data-bbox="1219 596 1402 711"></div> <p>Channels </p> <div data-bbox="1226 889 1410 1003"></div>	<p>Customer Segments </p> <div data-bbox="1595 458 1779 572"></div>
<p>Cost Structure </p> <div data-bbox="312 1225 498 1339"></div> <div data-bbox="581 1225 767 1339"></div>		<p>Revenue Streams </p> <div data-bbox="1145 1225 1329 1339"></div> <div data-bbox="1421 1225 1607 1339"></div>		

Final *Canvas*

<p>Key Partners </p> <div data-bbox="146 562 334 676"></div> <div data-bbox="146 766 334 881"></div>	<p>Key Activities </p> <div data-bbox="484 476 672 591"></div> <div data-bbox="484 616 672 731"></div> <p>Key Resources </p> <div data-bbox="490 836 678 951"></div> <div data-bbox="484 976 672 1090"></div>	<p>Value Propositions </p> <div data-bbox="865 502 1052 616"></div> <div data-bbox="865 665 1052 779"></div> <div data-bbox="865 828 1052 942"></div>	<p>Customer Relationships </p> <div data-bbox="1219 454 1406 568"></div> <div data-bbox="1219 599 1406 714"></div> <p>Channels </p> <div data-bbox="1226 891 1414 1005"></div>	<p>Customer Segments </p> <div data-bbox="1595 459 1783 574"></div>
<p>Cost Structure </p> <div data-bbox="314 1225 500 1339"></div> <div data-bbox="581 1225 768 1339"></div>		<p>Revenue Streams </p> <div data-bbox="1145 1225 1331 1339"></div> <div data-bbox="1421 1225 1609 1339"></div>		

Evidence comes from

Evidence comes from

Customer Discovery
Interviews

This is what *we call...*

This is what we call...

Evidence Based
Entrepreneurship



Case Studies

Fall 2014

Team 07

I-Corps @ NIH – Dec 09, 2014

BCN Biosciences

Team - Andrew Norris (PI), Mai Brooks (IE), Sudip Chakraborty (CL)



Validating Business Model for – ***Drug that increases anti-cancer effect of radiation in lung cancer (and/or reduces normal tissue damage by at least 40% compared to standard of care)***

Interviews total= 101

Avg/wk = 10

Team video: <http://www.slideshare.net/sblank/bcn-biosciences-icorp-nih-video-121014>

What we thought going into of ICorps

1 indication – Radiation Mitigation

Radiation Oncologists the main customer segment

Some MOA data is important

Phase1 Clinical Trials data required to license out the molecule

We need to raise \$5M+ to take the technology forward and it would take 6 years

So what did we really learn in 10 weeks at ICorps

~~1 indication – Radiation Mitigation~~

3 possible indications – & Tumor Sensitization; IPF, Skin

~~Radiation Oncologists the main customer segment~~

Pharma company in-licensing Directors most important customer segment

~~Some MOA data is important~~

MOA data is required for 2 of the 3 indications

~~Phase1 Clinical Trials data required to license out the molecule~~

Its possible to license out or partner at a pre-IND stage

~~We need to raise \$5M+ to take the technology forward and it would take 6 years~~

We can do this in <\$2M and in <3 years

Team 11: Recombinant Gammaglobulin

The first pure antibody source for patients who can't make their own antibodies (\$7 billion existing market).

We interviewed 163 people to test our business hypothesis.



Jennifer Keller
Industry Expert
MBA UC Irvine
MS UC Berkeley
Specialty is clinical
marketing



David Johnson
C-Level
MBA UC Berkeley
PhD Stanford
Specialty is genomics
innovation

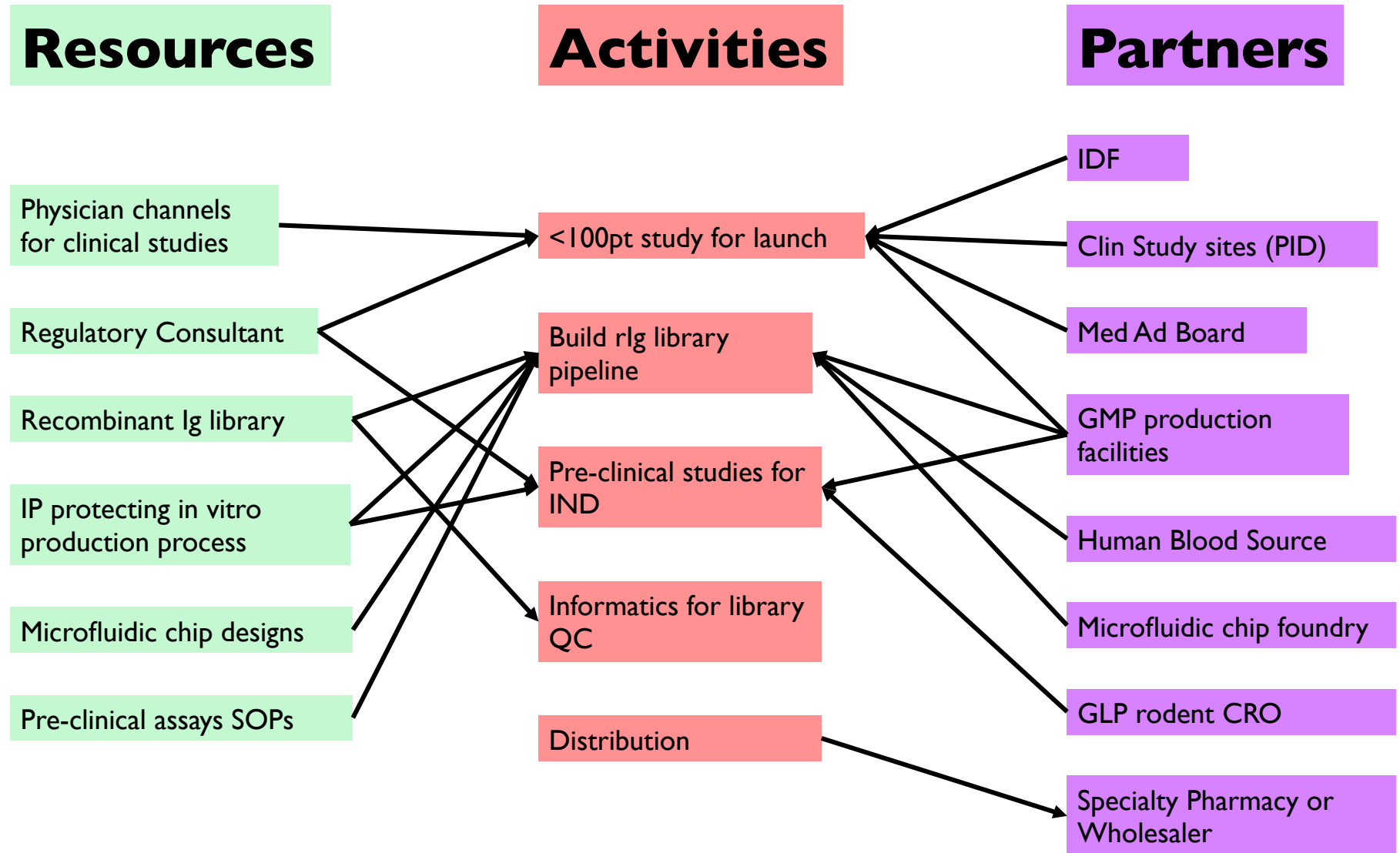


Matt Spindler
Principal Investigator
PhD UCSF
Postdoc Stanford
Specialty is immune
therapies

Team video: <http://www.slideshare.net/sblank/gammaglobulin-gigagen-icorpsnih-121014-video>



Learning: Ecosystem for Development



TAM of 900k users at \$3.85B
Targeting 30k users at \$60M

Stephane Meystre

Greg Jones



- Congestive heart failure
- Renal insufficiency
- Allergy to cephalosporins



Clinacuity
actionable clinical information

We talked to > 100 potential customers or experts related to our business:

19 Healthcare
executives



40
EHR users



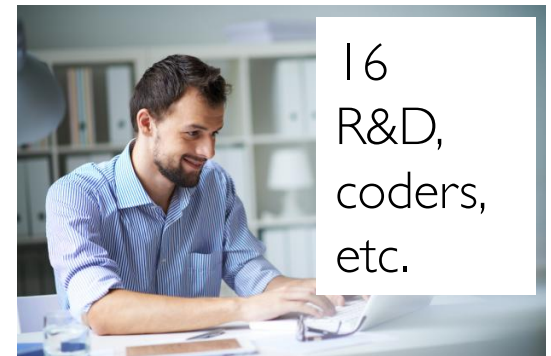
8
Vendors



23
Industry
executives



16
R&D,
coders,
etc.



We talked to > 100 potential customers or experts related to our business:

19
Healthcare
executives



40
EHR users



8
Vendors



23
Industry
executives



16
R&D,
coders,
etc.



Value Propositions

- Up to 20x faster patient chart review
- 10x faster problem list entry
- Lower risk of missed information (5x more complete problem list)
- Meaningful use certification compliance (for the problem list)

Customer Relationships

- Personal assistance (sales & support)

Customer Segments

- EHR user - Hospital - Inpatient - Specialist
- EHR user - Hospital - Outpatient - Specialist
- EHR user - Hospital - Outpatient - Primary care
- EHR user - Hospital - Inpatient - Primary care
- CIO, CMIO

Channels

- Sales force
- Partners (EHR vendors/resellers)

- ~~EHR user - Practice - Specialist~~
- ~~EHR user - Practice - Primary care~~
- ~~EHR vendor busdev (as optional feature)~~
- ~~Case managers/Coders~~
- ~~Retrospective clinical researchers~~

What we found: Customer Segments

Complex customer segments in healthcare organizations

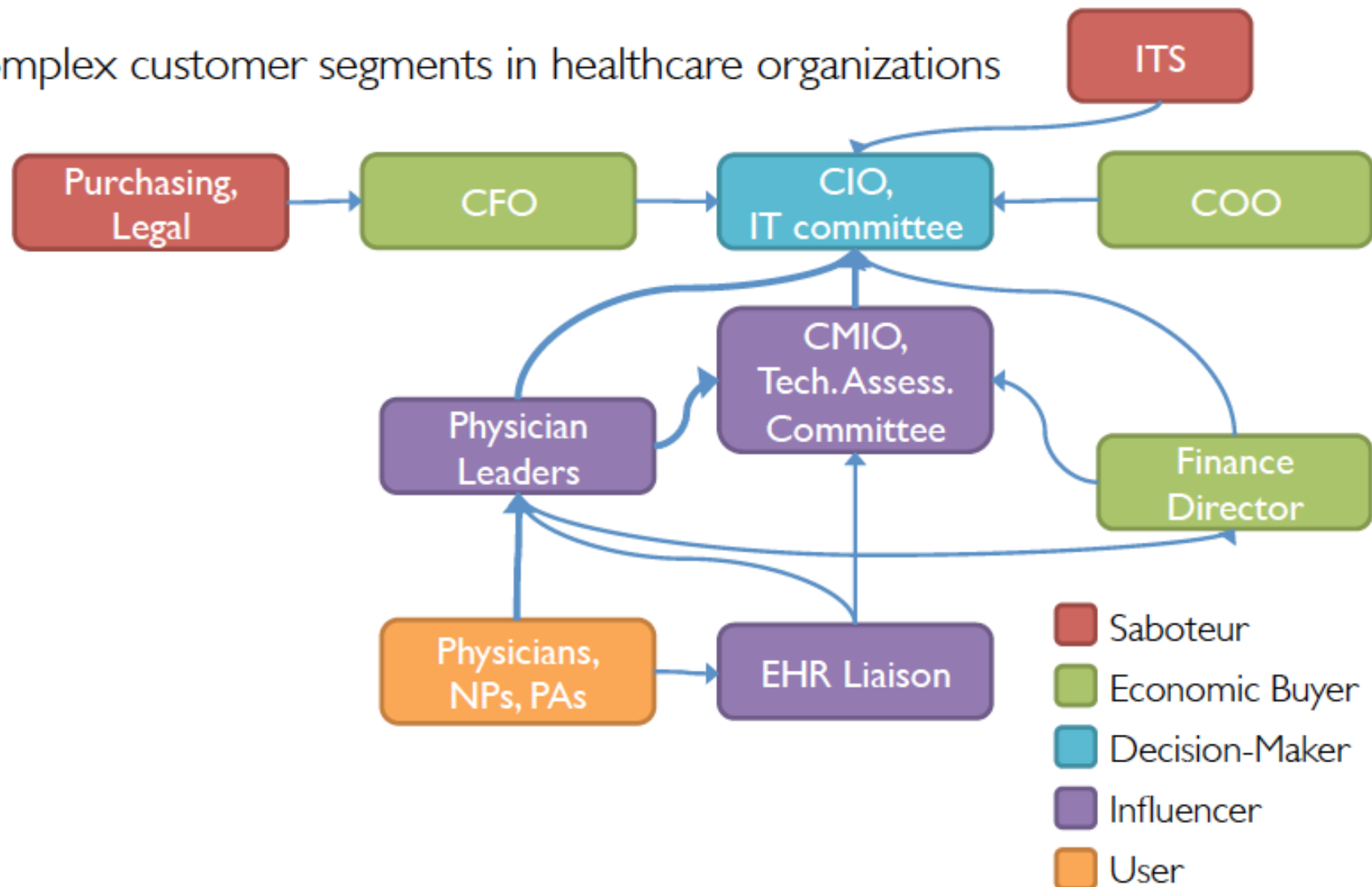


Physicians,
NPs, PAs

 User

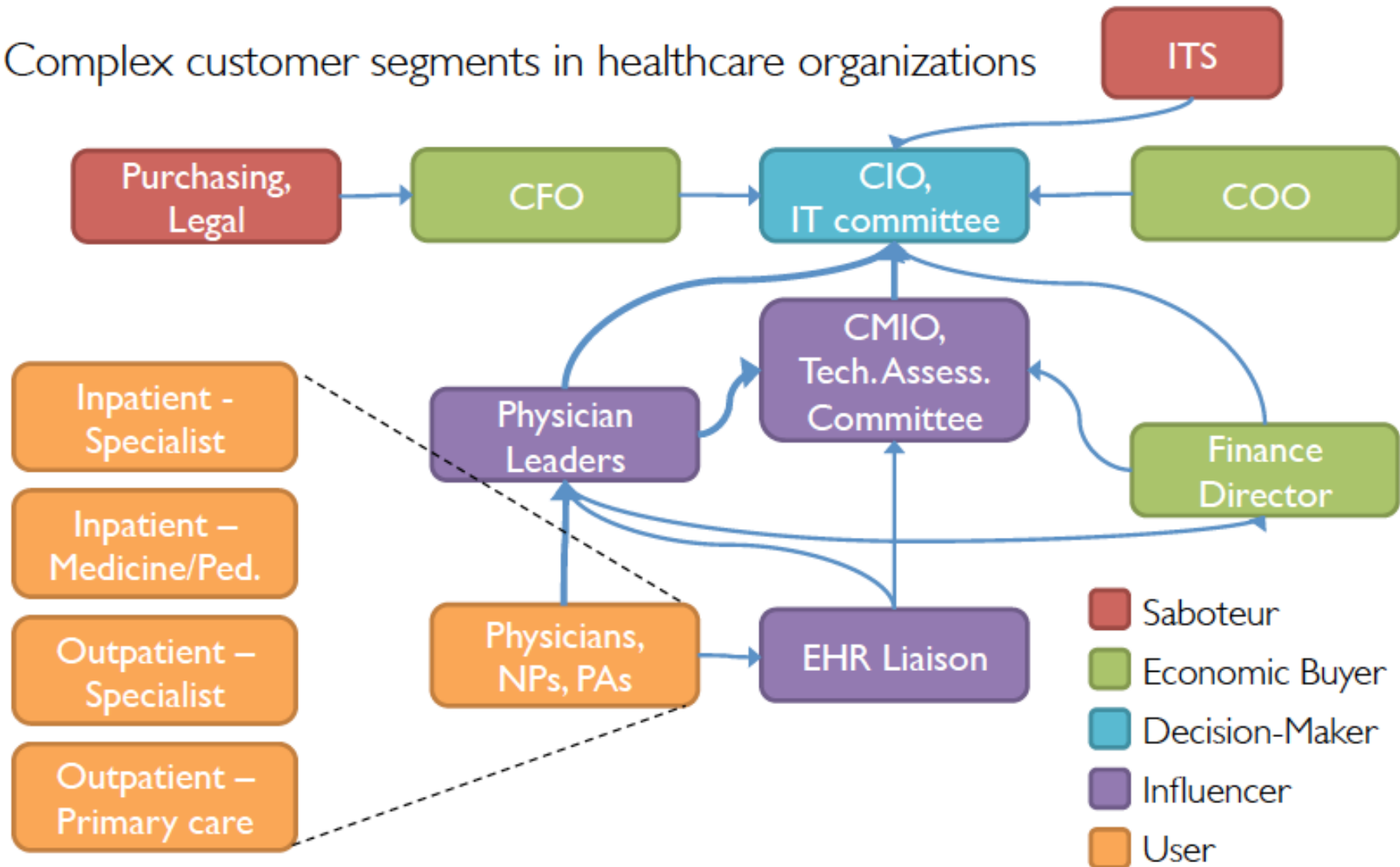
What we found: Customer Segments

Complex customer segments in healthcare organizations



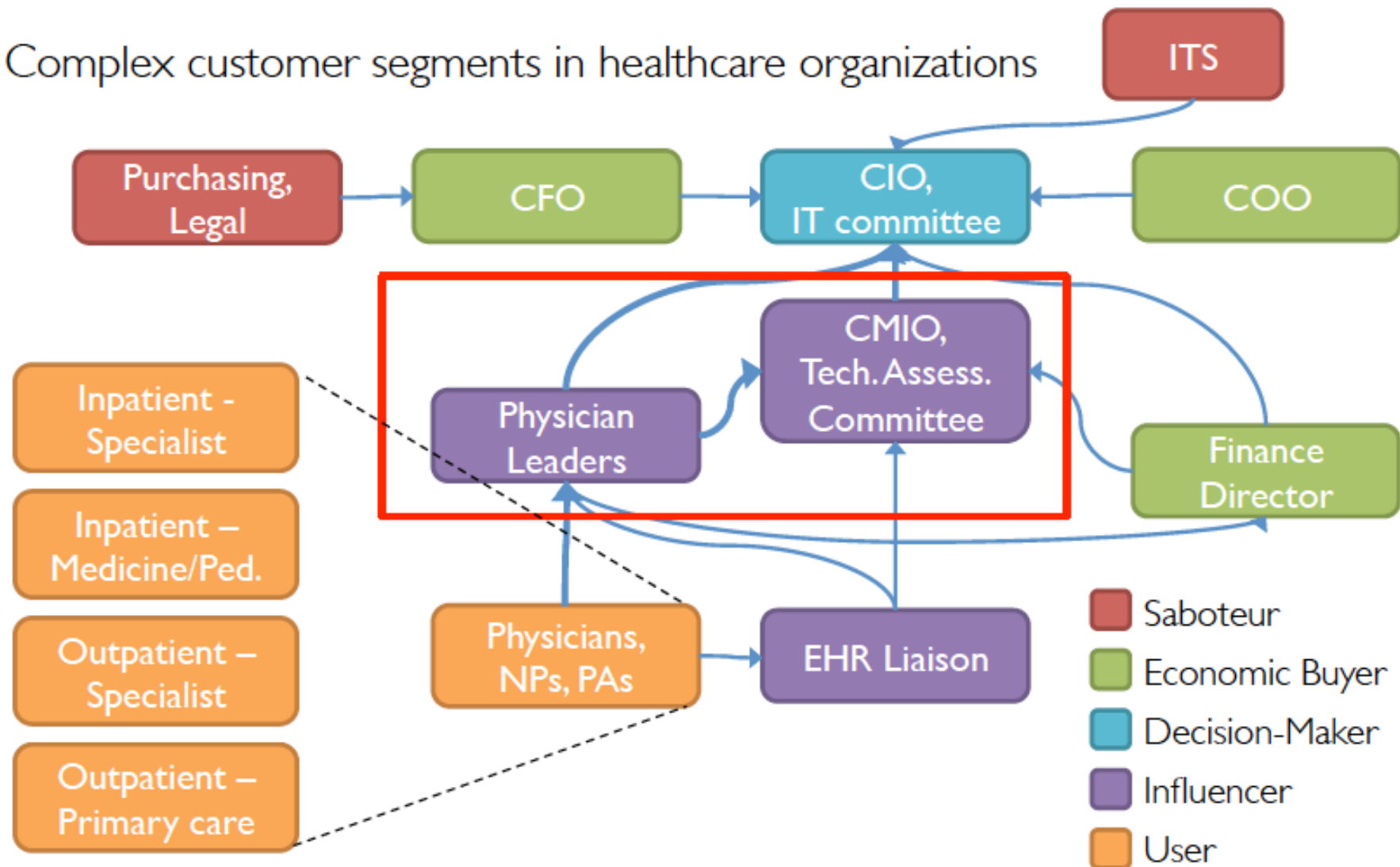
What we found: Customer Segments

Complex customer segments in healthcare organizations



What we found: Customer Segments

Complex customer segments in healthcare organizations



Customer archetype: Inpatient EHR user – Specialist

Interventional Radiologist

Male, 40-65 years old

Attending physician, specialist

Not the buyer, but the champion

Motivations: Less time using EHR and more with patient; Easy clinical documentation; High risk patient care; See more patients; Optimize revenue.

Influenced by: Department chair, Peers, Scientific knowledge (journals, web)



Why *I-Corps*



I WANT YOU

FOR  **CORPS**
NSF Innovation Corps

NEAREST RECRUITING STATION

I-Corps becoming
the model for innovation
programs across the country

*** and globe**

**I-Corps first program to
apply lean startup principles
*to complex engineering,
technology, and science
based startups***

**I-Corps the premiere
federally funded innovation
and commercialization
program in the US**

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The White House

Office of the Press Secretary

For Immediate Release

August 04, 2015

Fact Sheet: President Obama Announces New Commitments from Investors, Companies, Universities, and Cities to Advance Inclusive Entrepreneurship at First-Ever White House Demo Day

WASHINGTON, DC – Today, President Obama will host the first-ever White House Demo Day focused on inclusive entrepreneurship, welcoming startup founders from diverse walks of life and from across the country to showcase their innovations. The President will

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A STRATEGY FOR AMERICAN INNOVATION

National Economic Council
and
Office of Science and Technology Policy

October 2015



6 New *Agencies*

NIH ***I-Corps***

Question *Answer*

Teaching *Team*

Edmund Pendleton

Lead Instructor – May 2016 Cohort



- **Director of the DC I-Corps program**
- **Assistant National Faculty Director for NSF**
- **Technology Entrepreneur, Angel Investor, and Startup Mentor**

David Charron

Lead Instructor – June 2016 Cohort



- **Executive Director of the Lester Center for Entrepreneurship, Berkeley**
- **Assistant National Faculty Director for NSF**
- **25 yrs Entrepreneurship with Stanford, MIT, Xerox PARC**

Lydia McClure

Instructor



- **Leads Austin Technology Incubator**
- **Former Accenture Venture Partner, Texas Venture Labs**
- **NSF I-Corps Instructor**

Nancy Kamei

Therapeutics Curriculum Director



- Entrepreneur-in Residence, Institutional Venture Partners
- Started up 4 biotech companies
- Venture capital, Intel Capital
- Pharmacy Degree, UCSF

Bob Storey

Devices Curriculum Director



- Principal, MVR Company
- Managing Director, VIC Technology Venture Development
- Chairman, OsteoVantage
- Chairman/CEO, Vixiar Medical
- EIR, Johns Hopkins, Univ. of Maryland

Todd Morrill

Diagnostics Curriculum Director



- **Managing Director,
Venture Management
Group**
- **Former Head, Corp. & Bus.
Development, Bio-Rad
Labs**
- **Founder of 3 life science
companies**
- **Instructor, UC Berkeley/
Haas, UCSF and NSF**

**I-Corps™ at NIH
Team Training Program**

Application Process & Program Details

November 12, 2015

12:30 - 2:00 PM EDT

Michael Weingarten

Director, NCI SBIR Development Center

Administrative Supplement Awards

- NIH will provide administrative supplement awards (up to \$40,000) to 2 different cohorts of 24 teams each. These teams will be made up of currently-funded SBIR and STTR Phase I grantees.
- The program is designed to provide three-member project teams with access to instruction and mentoring to accelerate the translation of technologies currently being developed with NIH SBIR and STTR funding
- Applications for the first cohort are required and are due by **December 10, 2015**
- Participants for the first cohort will be selected on a competitive basis and will be notified around mid February 2016

How To Apply?

- Course Description
 - <http://sbir.cancer.gov/resource/icorps/>
- Application Info
 - <http://grants.nih.gov/grants/guide/pa-files/PA-16-019.html>
- Key Dates
 - Application Due: December 10, 2015
 - Class start: March 13, 2016
 - Class end: May 3, 2016

<http://grants.nih.gov/grants/guide/pa-files/PA-16-019.html>

Department of Health and Human Services

Part 1. Overview Information

Published:
October 29, 2015

Participating Organization(s)

National Institutes of Health (NIH)
Centers for Disease Control and Prevention (CDC)

Components of Participating Organizations

National Cancer Institute (NCI)
National Heart, Lung, and Blood Institute (NHLBI)
National Institute on Aging (NIA)
National Institute on Alcohol Abuse and Alcoholism (NIAAA)
National Institute of Allergy and Infectious Diseases (NIAID)
National Institute of Dental and Craniofacial Research (NIDCR)
National Institute on Drug Abuse (NIDA)
National Institute of Environmental Health Sciences (NIEHS)
National Institute of General Medical Sciences (NIGMS)
National Institute of Mental Health (NIMH)
National Institute of Neurological Disorders and Stroke (NINDS)
National Center for Advancing Translational Sciences (NCATS)
National Center for Injury Prevention and Control (NCIPC/CDC)

Funding Opportunity Title

Innovation Corps (I-Corps™) at NIH Program for NIH and CDC
Phase I Small Business Innovation Research (SBIR) and Small
Business Technology Transfer (STTR) Grantees (Admin Supp)

Activity Code

Administrative Supplement
Additional funds may be awarded as supplements to parent awards using the following Activity Code(s):
Administrative supplement requests may be submitted electronically for the following activity codes:
R41 Small Business Technology Transfer (STTR) Grant - Phase I only
R43 Small Business Innovation Research (SBIR) Grant - Phase I only

Announcement Type

Reissue of PAR-14-261

Related Notices


None

Funding Opportunity Announcement (FOA) Number

PA-16-019

sbir.cancer.gov/icorps



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The I-Corps™ at NIH

Apply for I-Corps™ at NIH in 2016

[PA-16-019](#)

On November 12, 2016, the NIH will host a webinar on the I-Corps™ at NIH program to provide information about the program, eligibility, benefits, and how to apply. Participants will also be offered an opportunity to engage with program leaders. Registration is free, but required: <http://bit.ly/1LCrQw6>

In line with the President's new [Strategy for American Innovation](#) and following the success of the 2014 pilot cohort, NIH is offering this entrepreneurial training program across 13 Institute/Centers at the NIH and CDC to support NIH/CDC SBIR/STTR funded academic researchers and small businesses to accelerate the translation of innovations from the lab to clinical practice. In 2016, the I-Corps™ at NIH is expanded to offer two cohorts to SBIR/STTR Phase I grantees across 13 Institutes/Centers across the NIH and CDC.

Join the [mailing list](#) to receive updates about this program.

Based on the highly successful NSF I-Corps™ program, the I-Corps at NIH curriculum is designed to provide scientists from NIH SBIR funded companies with real-world, hands-on entrepreneurship training, facilitated by domain experts from the biotech sector.

This new program seeks to accelerate the development and commercialization of new products and services arising from projects supported by currently funded NIH Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) awards. In particular, the I-Corps™ program is designed to support training that will help project teams at NIH-funded small businesses overcome key obstacles along the path of innovation and commercialization.

Curriculum for the I-Corps™ at NIH:

- Is an 8-week training program.
- Introduces the concept of a "Business Model Canvas," which provides the framework for pursuing a hypothesis-driven validation approach to customer discovery.
- Is taught by experienced, business-savvy instructors who work closely with project teams to help them explore potential markets for their Federally funded innovations.
- Instructors teaching this pilot program are selected based on their specific domain expertise in the major product areas that comprise the biomedical industry.

Frequently Asked Question (FAQ #1):

May I apply for a no-cost extension to meet the eligibility requirements?

ANSWER

Grantees should not request an extension solely for the purpose of participating in the I-Corps™ program. Grantees should only request a no-cost extension if additional time is needed to expend the grant budget and complete R&D activities.

Eligibility

- Small businesses supported by currently funded NIH SBIR or STTR Phase I grant awards from one of the participating Institutes and Centers at NIH and CDC
- Predicate grant award must extend (at least) through May 3, 2016, and should have remaining budget and R&D activities that extend at least until that date
- SBIR contractors are not eligible to apply
- SBIR/STTR Fast-Track grantees are eligible to apply, provided that the grantee is currently completing the Phase I portion of the award

Frequently Asked Question (FAQ #2):

Is the I-Corps™ training program only for new companies and/or inexperienced teams?

ANSWER

No, not necessarily. The program is intended to instruct teams developing early stage (Phase I) projects to help inform next steps. Although teams with limited commercialization experience may benefit the most, all teams will take away valuable general lessons, as well as specific insights around their particular technology and/or innovation.

Three-Member Project Teams

- C-Level Corporate Officer
 - “Chief” Executive Officer (CEO), “Chief” Operating Officer (COO), etc.
 - Relevant knowledge of the technology
 - Deep commitment to investigate the commercial landscape
 - Substantial decision-making authority within the company
- Industry Expert
 - Experience in translating technologies to the marketplace
 - Can be someone that has an established relationship with the company OR someone selected as a third-party resource
- PD/PI
 - PD/PI on the SBIR/STTR Phase I award

Time Commitment

- Each team member should plan to spend at least 20 hours per week on I-Corps™ activities and learning exercises for the full duration of the program
- Participants are required to get “out of the lab” and gather information by conducting a large number of interviews (i.e., 100+ interviews), with potential customers, strategic partners, and other third-party stakeholders
- This level of commitment is absolutely required to reap the benefits of the I-Corps™ training program!

Frequently Asked Question (FAQ #3):

Who makes a good Industry Expert?

ANSWER

- Someone with the right “rolodex” that has industry contacts in your area of commercialization
 - ***Critical for getting out of the lab and setting up interviews!***
- Someone who has entrepreneurial experience
- Someone who has business expertise in your sector

Frequently Asked Question (FAQ #4): Is there flexibility in how the three required roles are filled on the I-Corps™ Team?

ANSWER

Yes, for example, if the PD/PI is also the CEO, then you may designate an alternate C-Level Corporate Officer to lead the team. In other cases, it might be more appropriate to select a different senior level scientist to serve in the PD/PI role. **All teams should include three members and should be led by someone with decision-making authority within the company.** NIH program staff can help advise.

TAKE OUR POLL!

Please use the next few moments to take our poll

1. Are you eligible to apply for I-Corps™ at NIH?
2. If so, do you intend to apply? And,
3. What role do you plan to play on the team?
 1. PD/PI
 2. C-Level Executive
 3. Industry Expert

Research Strategy Section (6 pages)

- *Executive Summary of Predicate SBIR/STTR Phase I Grant and Team (one page)*
- *I-Corps™ Team and Project Plan (up to 5 pages)*

(1 page)

- Brief description of the specific aims of the Phase I project
- Describe any progress that has been made toward achieving the specific aims (current as of the time of the supplement request)
- Describe any technical, administrative, or commercial challenges that have been encountered and how those challenges have been addressed
- Briefly introduce the three proposed team members, their I-Corps™ roles, why they are appropriate for those roles
- Include a statement indicating that each team member is committed to the time requirements of the program.

(Up to 5 pages)

- *I-Corps™ Team*
 - Briefly describe the team and how the team will benefit from the I-Corps™ at NIH program.
 - Discuss the team's willingness to modify/refine the overall commercialization strategy, based on knowledge gained during the course of the I-Corps™ Program.
- *Potential Commercial Impact*
 - Briefly describe how this research has led the team to believe that a commercial opportunity exists for the SBIR/STTR Phase I project moving forward.
 - Provide a brief profile of a typical customer of the proposed innovation.
 - Describe the customer need(s) that will be met by the proposed innovation.
 - Describe how the customer currently meets those needs.
 - What is the competitive advantage that is offered by the proposed product or service?
 - How much would a customer pay for the solution (current best estimate)?
- *Project Plan*
 - Describe the stage of development for the SBIR/STTR Phase I project that is currently under development (proof-of-concept, prototype stage, etc.)
 - Provide a brief description of the proof-of-concept or technology demonstration that will be provided by the end of the SBIR/STTR Phase I project.
 - Describe the next steps that the company will take to advance the project closer toward commercialization, assuming the outcomes of the SBIR/STTR Phase I award are promising.

Frequently Asked Question (FAQ #5):

What should be included in the budget?

ANSWER

- Direct costs associated with completing the I-Corps™ program, up to \$40,000
 - \$20,000 per team to cover registration
 - Travel costs for two trips to the course site for the entire team
 - Travel costs to conduct interviews with customers, partners, etc.
 - Personnel time

NOT ALLOWED

- Indirect costs
- R&D costs

Applications Reviewed in Two Stages

1. NIH staff will evaluate the written application to consider whether the team's participation in the I-Corps™ program will increase the parent award's overall impact
 - **See the review criteria under Section V.1 in PA-16-019, and be sure to address the key points in the written application**
2. The most responsive and best qualified candidates will be contacted to provide NIH staff with clarification on the written application AND to provide responses to add additional questions
 - **See a list of typical questions under Section V.1 in PA-16-019, and consider your responses as you are drafting your application**

Class Schedule

- Class Length: Mar 13 – May 3 (11 class sessions)
- Opening Class: Mar 13-16
- On-line Class: Tuesdays, 1-5PM ET
(Mar 23, Mar 30, Apr 6, Apr 13,
Apr 20, Apr 27)
- Final Presentations: May 2-3
- Location: Washington, DC Area
Venue details TBD

Online Curriculum

- During the program, online content will be hosted by the NIH (or designee) to track the progress of the teams
- The team's progress will be shared with the entire cohort of I-Corps™ teams to facilitate group learning

➤ Teaching Philosophy

- A key part of this class is seeing how various teams solve similar problems through listening to the instructors coach and critique
- The success of the team is less about the original idea and more about the learning, discovery, and execution
- The I-Corps™ training program is intended to provide a forum for participants to “bounce” ideas off their peers

Frequently Asked Question (FAQ #6):

Will my Intellectual Property (IP) rights be protected when I discuss my ideas with the class?

ANSWER

Customer discovery does not require that you share the specifics of your IP. However, you will be sharing with the class what you learned on a weekly basis about reimbursement, regulation, customers, partners, etc. All of your presentations, customer discovery and validation notes, and your business model canvas, will be shared with the teaching team. **If you have specific legal questions, you should consult an IP attorney.**

Expected Outcomes

- Enhanced understanding of the Business Model Canvas
- Significantly refined commercialization plans, and well-informed "pivots" in the overall commercialization strategy
- Stronger Phase II SBIR & STTR applications

Outcomes Evaluation

- Outcomes from the program will be carefully evaluated as the NIH considers continuation of this program
 - The NIH will seek to collect outcomes data from participating teams immediately following the course, which may include customer evaluation surveys, interviews, and/or other data
- **Feedback from the cohorts will be critical**

14 participating Institutes and Centers from NIH/CDC

National Cancer Institute (NCI)

National Heart, Lung, and Blood Institute (NHLBI)

National Institute on Aging (NIA)

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

National Institute of Allergy and Infectious Diseases (NIAID)

National Institute of Dental and Craniofacial Research (NIDCR)

National Institute on Drug Abuse (NIDA)

National Institute of Environmental Health Sciences (NIEHS)

National Institute of General Medical Sciences (NIGMS)

National Institute of Mental Health (NIMH)

National Institute of Neurological Disorders and Stroke (NINDS)

National Center for Advancing Translational Sciences (NCATS)

National Center for Injury Prevention and Control (NCIPC/CDC)

National Institute for Occupational Safety and Health (NIOSH/CDC)

Submit Your Questions



- Please submit questions of a general nature with no proprietary information.
- Please be advised we will not answer questions specific to your project in this webinar.
- The webinar slides, audio recording, and Q&A will be published to the website, <http://sbir.cancer.gov/icorps>
- All webinar registrants will be emailed links to access webinar slides, audio recording, and Q&A

NCI SBIR Development Center

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<http://sbir.cancer.gov>

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Thank You!